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THE NEW CODE, 1871.

THE

USEFUL KNOWLEDGE
READING BOOKS

ADAPTED TO

THE USE OF BOARD-SCHOOLS AND
OTHERS UNDER GOVERNMENT INSPECTION.

EDITED BY THE

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EDITORS OF 'THE GRADE LESSON BOOKS' &c.

BOYS' SECOND STANDARD

LONDON:
LONGMANS, GREEN, AND CO.
1872.

The Editors venture to call the attention of Teachers and Managers of Schools to their

INTRODUCTORY LESSON BOOK

embracing Reading, Writing, and Arithmetic, as preparatory to the First Standard under the New Code, 1871.

They also beg to refer to their series of

GRADE LESSON BOOKS,

especially adapted to the New Code, 1871, and embracing Reading, Spelling, Writing, and Arithmetic.

These books will be found very suitable for use alternately with the Useful Knowledge Series, as required by the Committee of Council on Education.

They are also specially adapted as Home Lesson Books in all the essential subjects of the Code Examinations.

☞ The Editors desire to call the attention of Teachers to the notices on pages viii and xii of this volume.

ADVERTISEMENT

TO THE

FIRST EDITION

OF

USEFUL KNOWLEDGE READING BOOKS.

SERIES FOR BOYS.

SERIES FOR GIRLS.

IN SIX STANDARDS EACH.

THE EDITORS of these Series have been led to undertake their production by the fact that, for our Elementary Schools, there is an acknowledged want of books combining facility in teaching to read with the inculcation of such useful knowledge as is calculated to prepare the young to enter upon the practical duties of life with intelligent and well-furnished minds.

In attempting to produce such a work, the chief difficulty is that of supplying useful knowledge in a form sufficiently attractive, and so suited to the capacities of children as to awaken their interest and excite in them a thirst for knowledge; in truth, to effect a threefold object, namely, to teach them to read, to cultivate in their minds a love of reading, and, at the same time, to impart sound and useful instruction in those matters relating to every-day life, *for which no special times can be set apart in the daily routine of an elementary school.*

Hitherto this difficulty has seemed insuperable; and this has led to the production of books addressed almost exclusively to the imagination—the moral and emotional nature of children—to the almost total omission of subjects of practical utility.

Although it must be allowed that a very gratifying degree of success has attended the use of such books, and it cannot be wished that they should be superseded, as they certainly fulfil a very important office in the training of the children in elementary schools, the Editors believe it is generally felt by all thoughtful friends of elementary education, that the school means of training the young will be very insufficient, unless, in addition to books of this class, others be supplied which shall afford more practical information. Also, it is found in the working of a school that a double set of reading-books is very advantageous, and teachers will readily confess that the benefit derived from an occasional change of books more than counterbalances the slight additional expense which is entailed.

The great difficulty, however, which has been mentioned above, has not, as far as the Editors' knowledge extends, hitherto been overcome.

For the most part, those reading-books which aim at giving useful information to their young readers, have failed in presenting what is attractive and interesting, and adapted to the minds of children. The present Editors believe that this comparative failure may be explained partly on the ground that the books are written rather by theorists than by persons practically acquainted, as teachers, with the minds of children, and partly that the extracts are taken from writers whose ideas and language fly far above their heads; while not unfrequently too many lessons are prepared by the same hand, and thus the books acquire a monotonous and wearisome character.

A further mistake in such books has been made by the introduction of subjects involving technical teaching, which the Editors feel sure can be imparted effectually only through manuals specially treating the several subjects.

The Useful Knowledge Reading Books, therefore, aim chiefly at giving information that shall be valuable in itself, and that shall also lay a firm basis for any special technical education that may be afterwards entered upon. This foundation will best be laid by imparting to boys, whose livelihood must be drawn from the soil, some knowledge of its products and of the method of dealing with it; and by supplying, in the case of girls, as far as books can do, the immediate and indispensable need of a real and solid acquaintance with the practical matters involved in the management of a home. It is, further, obvious that much information may be given of the uses to which agricultural and mineral products may be put without entering into technicalities; and in this respect it is hoped the present series will not be found wanting.

The Editors of the Useful Knowledge Reading Books sincerely desire that they may not be misunderstood in these remarks. They make them in no captious spirit, but merely as explaining the difficulties in the way of producing a really suitable series of Useful Knowledge Reading Books; and as indicating the causes of the defects which are admitted by practical persons to prevail in most existing books of the kind.

In determining, therefore, the principles which should guide them in the production of these series, the Editors set before themselves the following points, and have done their best to carry them out:—

1. The lessons contained in the books must

impart *useful knowledge*, including in this moral teaching.

2. They must be concise, yet comprehensive.

3. They must have variety and attractiveness in style, and be level with the capacities of the children for whom they are intended.

4. They must not treat of subjects technically, technical teaching being inappropriate to such books, and above the capacities of the children for whom they are intended.

5. Looking at the fact that the pursuits and interests of girls are, for the most part, different from those of boys, although they have much in common, *it would be useful and desirable to present a series drawn up especially for girls.* (This series, the Editors hope, will be considered particularly valuable, presenting, as it does, the results of the experience and knowledge of those who, *having devoted their time and talents to the training and management of the young of their own sex*, must be peculiarly, and it may be almost said exclusively, qualified to produce lessons suited to the wants and capacities of girls.)

6. To carry out the idea, many coadjutors must be obtained specially qualified for the work.

The Editors, feeling assured that schoolmasters and schoolmistresses actually engaged in teaching the young are best qualified to write lessons calculated to interest boys and girls, and adapted to their capacities, appealed therefore to many teachers of approved ability to aid them in this important work—an appeal which, they are thankful to say, has been responded to in the best spirit; and they have great pleasure in announcing that they have been assisted in the work in hand by some of the best educated and most experienced of the trained and certificated masters and mistresses of elementary schools, and have also received the kind aid of personal friends connected with educational work. With such invaluable help, they have been able to produce two series of books—one for BOYS and another for GIRLS—which they hope will thoroughly meet the wants of the classes for whose instruction they are intended.

NOTICE TO TEACHERS.

I. The Committee of Council on Education now require that each School subject to Inspection shall be provided with TWO COMPLETE SETS OF READING-BOOKS, and that the children presented for examination shall show an acquaintance with the SUBJECT MATTER of the Lessons contained in their respective standards.

II. Her Majesty's Inspectors require in Schools, where Singing is not taught from notes, that the children shall be able to sing at least six songs from memory with correct words, tune, and time. The Editors have therefore inserted in each standard of this series several pieces of poetry which have been set to music, in order that the children may have the means of learning the words correctly before they are taught to sing them. *See* page xii.

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The Months, p. 120, is set to music in 'Hullah's School Songs.'

Shades of Evening, p. 121, is set to music in No. 1 of 'Songs for the Schoolroom and Family Circle.' W. Hamilton, Glasgow.

Buttercups and Daisies, p. 125, is set to music in 'Hullah's School Songs,' and also in Mr. Crampton's.

Change of Seasons, p. 126, is set to music in 'The Training School Song-Book.'

NOTE.—The Editors will esteem it a favour if teachers will kindly inform them of any other poems in this book which have been, or may hereafter be, set to music, in order that they may be added to the above list.

THE

USEFUL KNOWLEDGE READING BOOKS.

STANDARD II. (BOYS' SERIES.)

CANDLES.

cen-tre
an-i-mals
ex-act-ly
di-vid-ed
chand-lers
cur-tains
dif-fer-ent
men-tion-ed
in-vent-ed
oc-ca-sions
car-ri-ed
re-quir-ed
meas-ur-ed
lant-horn
les-sons

At night, when we wish to see in our houses, we use either gas, oil-lamps, or candles.

Candles are made either of wax or of tallow, or of a mixture of wax, tallow, and oil. Wax is the comb of the bee. Tallow is the fat of animals, and is prepared by melting it. Oil is obtained from the fruit of the palm and other trees, as well as from some animals.

Some candles are moulded, and are called for this reason, mould candles. But common tallow candles are made in a different manner. Those who make them, and who are called chandlers, take a number of wicks, which are made of cotton, hung on a frame. These they dip into melted tallow, some of which adheres to the wicks. They are then put to dry. When dry, they are again dipped. This goes on until the candle is of the required thickness. Some chandlers are so used to their work that they can tell exactly when the proper number of dips have been given to make the candles eight, twelve, or sixteen to the pound.

Candles are mentioned as being used in very olden times. The good king Alfred, whom you read of in your History of England, measured time by a candle, because he had no clocks to tell the hour. His candle was divided into different parts by colours. Whilst one colour of the candle was burning, he did a certain kind of work, and whilst the next colour burnt, some other; and so on until it was all burnt, as it was divided into enough parts to last all day. He found that the wind sometimes blew it, and made it burn too quickly, and to prevent this he invented the lantern, or lanthorn, as it is sometimes called. So, you see, one invention gave rise to another. Did you ever watch the flame of a candle? If you never did, the next time you see one, look closely at it. I have no doubt you will think it a solid mass of fire. It is not so, but a hollow cone. In burning, the wax or tallow is changed into a liquid by the heat of the flame, and is again made into vapour by the same means. It is this vapour that burns, giving both light and heat.

If you take more notice, you will find that the centre of the flame is dark; that is the unburnt vapour, which you can bring outside the flame by taking a small glass tube and putting one end in the middle of the dark part. If you now put a light to the other end of the tube, you can get a jet of flame, and this you can do all the time the candle is burning.

Houses have often been set on fire by sparks falling from candles as they are carried about, or by setting them down too near curtains, &c.

When you have to carry a lighted candle, hold it upright that the grease may not fall, and see that no sparks fly from it. Greasy rags or *waste* should never be kept, as they are likely to catch fire of their own accord.

F. C. R.

A MAP.

pic-ture
re-al-ly
dif-fer-ent
care-ful-ly
en-or-mous
pre-tend
isl-ands
ex-am-in-ed
em-ploy-ed
Lan-ca-shire
At-lan-tic
scat-ter-ed
meas-ur-ed
beau-ti-ful
Liv-er-pool

A MAP is a kind of picture of the world, or of a part of it. But what a poor picture it is! We cannot see in it the great ocean dashing and foaming, nor the towns filled with busy men.

Indeed, a map does not pretend to show us these. It can only show *where* places are, not what they are *like*.

So we see a large space on the map, and the words Atlantic Ocean are printed on it. And there is a little space shut in by a crooked line, and England is the name of it.

Some maps do, indeed, show more than this. In them the mountains and hills are really raised above the surface, and you can see and feel the pointed mountain-tops, and see the rivers running along through the hollows. But most maps are quite smooth and level, and only show where places are.

And we must not think this a trifling thing. How pleased we are when reading of a ship sailing round the world to find out on the map all the places it stopped at, the islands it passed by, and the oceans it sailed over! We can almost fancy we were there as well.

And what would the captain himself do without maps? How could he find his way to all parts of the world, and among all the thousands of islands which are scattered over the oceans?

It was not easy work to make maps at first though it is easy enough to copy them now, when they are made, but we must not forget that the different parts of the world had to be gone over and examined, and measured carefully, before they could be marked in maps. These maps were at first very poor things. Many parts of the world were left out, and great rivers and mountains and towns were not marked, or not in their right places.

Even now there are some parts of the world which are not much known, and so are put down partly by guess in the maps. Not very long ago many thousands of pounds were spent in getting England examined and measured for a new map. Clever men were employed in the work, and it took them a long time, but they made a very beautiful and exact map at last. This was called the Ordnance Survey.

No maps can be perfect; they are far too small for that. It would need enormous ones to show every bend in a river and every cape and bay on the sea-coast. The larger maps are the best, but even the little ones are of very great use.

Now let us look at the map of England.

The top of a map is the north part. See, it is there that England is joined to Scotland.

The bottom is the south, the right side the east, the left the west. Those short, crooked lines mark where the mountains are. And see how the rivers begin there; those long waving black lines, that get thicker as they get nearer the sea. The towns are marked by little rings. See, here is London—on the Thames. And observe what a lot of these rings are marked in Lancashire—Liverpool, Manchester, Preston, and many more.

Is not a map an interesting thing?

R. M^c^W.

THE EAGLE.

di-rect-ed
tow-er-ing
val-u-a-ble
a-dorn-ed
ey-rie
joy-ful-ly
quad-ru-peds
im-i-tate
fes-ti-vals
fierce-ness
fol-low-ed
dan-ger-ous
pro-tect-ing
grace-ful-ly
orn-a-ment
cal-u-met
at-tack-ed
ar-riv-ing

The eagle is a bird of prey—which means that it feeds upon animals which it kills, and as the lion is king among beasts, so the eagle is king among birds.

It has a strong hooked bill and talons, with which it kills its prey, consisting mostly of other birds and small quadrupeds.

Shepherds have great trouble in protecting their lambs from the eagle.

Some birds of prey seek their food at night; the eagle seeks his by day, and his eyes, which are directed sideways, are so strong that he is able to look at the sun, which you know you cannot do at all without great pain to your eyes.

If you lived in a country where eagles live you might see them sailing gracefully, high up through the air. Sometimes they go so high that you can scarcely see them. The flight of the eagle is called soaring, which means a lofty flight. It is generally held to be an emblem of power and courage. The young Indian warrior glories in his eagle plumes, as the finest ornament he can adorn himself with. Indeed, so highly do the Indians prize them, that they will often give a good horse for the tail feathers of a single bird. The pipe which they use at their solemn festivals, called the calumet, or pipe of peace, is also adorned with its feathers.

There are many tales told of its fierceness. Two boys were one day walking in a field, when suddenly an eagle swooped down, and tried to strike one of them; but, missing its aim, it went a few yards off, and prepared for another trial. When it again attacked them, one of the boys, who had a sickle in his hand, struck at it, and the sickle entering its side, killed it. Do you not think it fortunate that he had a sickle in his hand? If he had not, no doubt the eagle would have killed him.

There is a tale told of another carrying off a little baby to its eyrie, that is its nest, which is generally on the top of some steep and high mountain, among the rocks, where no one can get at it without great danger of falling. The mother had laid the baby down in a field whilst she helped to make the hay. All at once a cry was heard that her child had been carried off by an eagle. They could see it taking the little one to its nest in a mountain not far away. The mother followed, and at last reached the nest, found her child, which was not hurt, and went joyfully down the dangerous path she had climbed up, arriving safely at the bottom. F. C. R.

ALFRED THE GREAT

pa-tient
clev-er-est
de-sert-ed
lodg-ing
ig-no-rant
how-ev-er
dif-fi-cult
sol-diers
en-e-mies
im-port-ant
prom-is-ed
cour-age
com-pel-led
vic-tor-y
com-pan-ions

A THOUSAND years ago there ruled over this country a king named Alfred, whom all men agree to call Great. He was not, as you may suppose, born great, but became so only after many years of hard and patient working. At the time he lived there were no schools for the young, and so we find that Alfred, though the son of a king, had reached the age of twelve years without being able to read. About this time, however, his mother, who was a good and wise woman, called her four sons around her, and, showing them a handsome book, with painted letters, promised to give it to the one who should learn to read it first. Alfred set to work, and though the youngest of the four, he was soon able to claim the reward, and by the time he came to the throne he was the cleverest man in the country. At the age of twenty-three it came to his turn to be king of England, and a very difficult part he had to fill. His country was overrun by a fierce people called Danes, and it was more than he could do to put enough courage into his people to drive them out. Indeed he was at one time deserted by his soldiers and compelled to hide himself in a lonely spot in the west of England. While here, and lodging in the house of a poor woman, who did not know who her guest was, he could think over the sad state of his country and plan many things for its relief. At last, however, a few faithful friends learnt where he was, and came and begged him to lead them once more against their enemies. Alfred did so, and gained such a complete victory that the Danes never troubled him or his country again. Now there was peace, the good king was not idle, for he found plenty to do among a people so ignorant as his subjects were. He made wise laws, drilled his soldiers, built ships, and, what was not less important, he provided schools and teachers for his people. His companions were the wisest and best men of all countries, and he himself wrote several useful books. If we bear in mind that all these great and good things were done by a man who was suffering all his life from a painful disease, we shall feel that the title of Great truly belongs to him. He died A.D. 901, after a useful reign of twenty-nine years.

T. W.

TRUTH.

mon-key
school-room
be-lieve
prize
re-ceiv-ed

danc-ing
si-lence
school-fel-low
ques-tion
sur-pris-ed

teach-er
re-mem-ber
re-com-mend
un-friend-ly
re-pli-ed

'MAMMA,' said Willie Grant, 'our teacher said to us the other day, "Children, be sure you hold fast the truth!" What did he mean? How can anyone hold fast truth?'

'Do you remember, Willie, asking me to let you take little Lizzie into the next street to see a monkey dancing on an organ?'

'Yes, mamma, and you said I might, if I held fast to her hand all the time, and I did not let go once.'

'Suppose you had not held fast, Willie?'

'Then little Lizzie might have tumbled down and hurt herself, and you would not have trusted me again. I see now, mamma, to hold fast is to take great care of anything. The children were to take great care of the truth. I do, mamma; I am sure I would not tell an untruth on any account.'

'Yet, Willie, if you are not very careful you may fall into a habit nearly as bad. Did you see the girl I chose as our new nursemaid to-day?'

'Yes, Mamma; but I thought you meant to

have Mary Carter. A few weeks ago, the teacher pointed her out as the one she could best recommend.'

'And what did I say at the time, Willie?'

'That you wished for one who spoke the truth, because she would have so much to do with my little brothers and sisters.'

'Listen, Willie, while I tell you why I chose Ellen Taylor in place of Mary Carter:—'

'One day several girls were in the schoolroom, before school-hours. Somebody had brought a large india-rubber ball, and the girls were soon having a fine game with it, throwing it as high as they could, and then seeing who could catch it. When the fun was at its height, a crash was heard—the ball had broken a window! The girls were much frightened, and for a moment no one spoke. Then someone said, "Let us say nothing about it; no one will know we have been in the schoolroom, and teacher will think it was broken by a stone thrown from outside."

"So she will, Mary Carter," cried several voices, "there was one broken in that way last week."

"But that would not be truth," said a voice that had not before spoken.

"Nonsense, Ellen Taylor," said Mary Carter; "no one is going to tell an untruth."

"But teacher will believe what is not true if we keep silence, and that will be as bad as telling a lie."

"Now don't be so unfriendly, Ellen; you know I would not tell a falsehood. You just want to make yourself out better than anyone else," replied Mary Carter.

"I am sorry if you will not tell. I do not wish to be unkind, but I will not hide the truth."

"Then you will tell, Ellen, and have us all punished for playing in the schoolroom, when we have been told not to do so," said her schoolfellows.

"And I shall lose the prize for good conduct just a week before it will be given," added Mary Carter.

"I wish you would all listen to me, and not hide the truth from teacher. She will not be very angry if we tell her how sorry we are. But if you will not join me I will tell of myself."

"And if you are asked who were with you, will you tell?" enquired Mary Carter.

"No; I will ask teacher to please not to question me, except about myself."

'When school began, Ellen went to her teacher and said:

"If you please, ma'am, I was playing with a ball in the schoolroom, and it went through a window and broke it; I quite forgot for the time that you had told me not to play in the schoolroom. I am very sorry, and will try not to forget again."

'Then the teacher asked if any others were playing with her, but Ellen begged that she might not be pressed for an answer.

'Next the teacher called upon those who had been with Ellen Taylor to stand out from the rest, but no one moved. Then to the surprise of all, she called upon each by name to come and stand by Ellen Taylor. As Mary Carter came in answer to her name, she looked very much ashamed and hid her face, for she could not bear the rest of the school to look at her.

'Till now she had always been looked upon as a girl who had spoken the truth.'

'Mamma, had Ellen told of them?'

'No, Willie; Ellen had said nothing more than the whole school heard her say; but their teacher had been sitting writing in a room next to the schoolroom when the window was broken, and had heard all that passed. When we went to-day to see the prizes given, I was very much surprised to see that Ellen Taylor, and not Mary Carter, received the prize for good conduct; for the last time I was at the school it was thought that Mary Carter was sure of having it.'

'I see, Mamma; Mary Carter did not "hold fast the truth," and so she lost the prize for good conduct.'

'Yes, Willie; and I chose Ellen Taylor and not Mary Carter for my nursemaid, because she knew how to "hold fast the truth."'

E. K.

THE EARTH.

roll-ing
ex-act-ly
o-rang-es
break-fast
through
cov-er-ed
thous-ands
mount-ain
for-ests
el-e-phants
dif-fer-ent
won-der-ful

THIS earth of ours is very wonderful, and we do not know half its wonders yet. But we know far more about it than the old nations did. They thought it was *flat*, and that it never moved; we know that it is *round* and that it moves very quickly, nearly twenty miles every second, and it never stops a moment.

They thought too that the earth was very much larger than the sun, and that the stars were very little things indeed. But we know that the sun is very many times larger than the earth, and that most of the stars are larger even than the sun.

It seems strange to us, yet we know that the world is a great ball, floating or swimming, and turning over and over, so that in a few hours' time our heads are pointing the very way our feet were before.

Yet all the time it is floating on nothing, and it keeps exactly in its path round the sun.

The earth is much smaller than the sun, yet it is very large. It measures 8,000 miles through and nearly 25,000 miles round it.

And there are all kinds of lands on it; some covered with ice and snow nearly all the year, and some where the ground is burnt up into dry sand. There are lands covered with great forests, in which lions and elephants live, and monkeys chatter and skip among the trees, and all kinds of beasts and birds are found. And there are lands where oranges and pineapples, and tea and sugar, and all such things grow.

There are mountains whose tops are covered with snow, and which reach up into the very clouds; and there are mighty rivers thousands of miles long.

There are the immense blue oceans too, with great rolling waves, which dash upon the shore when the winds blow strong.

And there are many different sorts of people, white, brown, red, black; and hundreds of different languages are spoken.

It is dark night in some places while it is bright day here. Some people are going to bed, others are just rising. Some are eating breakfast, others eating supper.

This world is a very mighty place. It seems very firm and solid too, as if it could not change, but it is not so. Every mountain and hill has been lifted up, and all the dry land we walk on has been under the sea, and the fishes once swam over it.

The raging sea is wearing bits off the rocks all round the coast, and sometimes the sea rushes in and steals miles of land all at once.

Then think how the sun draws up water out of the sea. The tiny drops form into clouds and come down upon the earth in the form of rain, or sail high up in the air to the mountain-tops, and rest there as snow. Then the snow melts and the water runs back in rivers to the sea. So that, perhaps, there is not a drop of water in the deep ocean which has not been on the land as well.

We see then how wonderful is the earth. No one could make it but God. How great must He be!

R. McW.

THE RAIN AND THE SUN.

thirst-y
grate-ful
fo-li-age
fields
var-i-ed
dearth
pleas-ant
up-rise
glanc-es
ge-ni-al
nour-ish-ed
show-ers
fruit-ful-ness
beau-te-ous
re-fresh-ing

How gently falls the rain
  Upon the thirsty earth,
To bring to life the seed of grain
  And save the land from dearth!

It clothes our fields with green;
  With foliage, too, the trees—
Whose grateful leaves, with pleasant sheen,
  Wave softly in the breeze.

The sky drops fatness down,
When rain doth gently fall;
Flowers and trees, grass and corn,
By it are nourished all.

The earth would be forlorn
But for refreshing showers;
Its fruitfulness would all be gone;
Its bright and lovely flowers.

The sun, too, gives us light and heat
To make the plants uprise,
The grass on which we press our feet,
The deep blue of the skies,

The rich and varied bloom which plays
Round nature's beauteous face,
Are glances of the sun's bright rays—
Her charm, her joy, her grace.

The Giver of all good hath thus
Such kindness to us done;
By giving, in his love to us,
The genial Rain and Sun.

C. H.

THE SUN.

sol-id
heav-en
thous-and
wor-ship
cre-a-tion
glass-es
wil-lows
mil-lions
won-der-ful
ex-act-ly
beau-ti-ful
tel-e-scopes

The sun is perhaps the most wonderful thing in creation. The old nations used to worship it. They thought it was a mighty god, who was very beautiful, and loved them and blessed them.

We do not think so, but we love the sun as one of God's most noble works. What could we do without it? How sad it would be to live for ever in the dark! But we could not even live if the sun were taken away, for every thing then would be frozen up and would die.

No plant can grow without sunlight. The dust of the field, the air and the water are changed by the sun into plants and fruits which feed both beasts and men. The lovely colours of the rose and of the pink are the sun's work.

It is the sun which draws up the drops of water out of the sea to form clouds and rain. So that without the sun, even if we were not frozen to death, we could have no fresh water to drink, and the flowers and the grass would die of thirst.

It is the sun, too, which makes all the winds blow. The fierce cold wind which makes us shiver and dashes ships to pieces, and the gentle wind which cools us and carries the ships over the ocean are his work.

Yet we know very little about the sun, although he does so much for us. Wise men would give very much to know exactly what the sun is. He is so very far away, more than ninety million miles, that we cannot see very well what he is, even when we use the very best telescopes.

Some men think the sun is a great burning ball, all on fire, and that at last he will burn himself out. Others think the fire and light are only in the air and clouds which are round the sun, and that the middle, the solid part, is not on fire at all.

But about this we do not know for certain. Still there is one strange thing we do know—though the sun is so bright, yet there are dark spots in it. Some of these are almost black and are hundreds of miles across. They change very quickly, and in a few days, perhaps, close up and new ones come in other parts. These spots can only be seen with good glasses, and are thought to be holes burst through the bright clouds which cover the sun; and it is supposed that we see the solid part of the sun down at the bottom of the holes.

The bright parts of the sun seem to be made up of flakes, like large flakes of snow, or rather in the shape of the leaves of willows, and some of them are nearly two thousand miles long.

You see then how grand a thing the sun is. Yet it is a very little thing to God who made it. And the whole heaven, with its millions of great bright stars, are not great enough to hold Him.

R. M^cW.

CLAY.

dif-fer-ent
nat-u-ral
fur-ni-ture
mould-ed
kiln.
col-lec-ted
Pal-is-sy
por-ous
ar-ti-cles
tex-ture
earth-en-ware
suc-ceed-ed
quan-ti-ties
por-ce-lain
im-prove-ment

CLAY is very useful in the arts, as it can be moulded into any form, which will not alter when baked.

No water can pass through clay, because it is not porous. It is therefore used to line ponds and wells, so that the water may not run out.

It sometimes lines hollow places in the earth, which become filled with water. When the water thus collected forces its way out in a small stream it is called a spring. I dare say you have seen springs when walking in the country.

Bricks are made of clay. They are first dried in the sun, and then burnt in a kiln or clamp, by which means they are made as hard as stone.

There is one kind of clay called pipe-clay, which is white, and is used for making pipes, and for taking grease out of cloth. Soldiers also use it to make their leather belts look white and new.

Another kind, called porcelain clay, is used in making china-ware, such as the best kinds of cups and saucers. It is called china, because it was first made in China, a country in Asia, a long way off. This clay is of a very fine texture.

A coarser kind is called potter's clay, and is used for making common earthenware, which is of a reddish-brown colour. To make it hard it must be baked in a kiln built for the purpose.

Great improvements in the mode of making articles of white clay were made by Palissy the potter, who nearly starved himself in doing it; using all his money to buy the different things which he wanted for that purpose. At one time, when he wanted fuel very badly, he took his furniture to make the fire with. He succeeded at last, and he became rich, but was shut up in prison on account of his religion, and died there.

Another man, who made a great improvement in English pottery was Josiah Wedgwood. His father was a very poor potter, barely able to make a living at his trade. He died when Josiah was only eleven years old. At this early age he was obliged to go to work as a thrower at his elder brother's wheel. He worked hard, and in his spare time he learnt to read; when he grew to be a man, by reading and trying, he found out so many new things about earthenware that he could make it better than anybody else, and. of course, sold great quantities of it. He still kept on trying to improve it until his death. He made English pottery so good and so pretty that all countries bought it. Of course he got rich; so, from a poor boy, by hard work and by trying, he became a clever and a rich man.

F. C. R.

STONE.

min-er-al
heav-i-er
si-lex
weigh-ed
gran-ite

al-ka-li
sep-a-rate
pur-pos-es
ac-ci-dent
quant-i-ty

im-prov-ed
Wa-ter-loo
aft-er-wards
ap-pear-ance
gen-er-al

A STONE is a mineral. Can you tell me what a plant does that a mineral does not? It is this—a plant grows, a mineral will not grow. I will tell you how to find out. If you take a young plant and set it in the ground, it will grow larger and larger; but if you put a small stone into the ground, it will not grow at all.

Some stones, if struck against steel, will give out a spark of fire. Before matches were found out, this is the way a light was got. This kind of stone is called flint; it is the hardest of all stones, and makes good roads. Mixed with alkali, it will, when melted, become glass. The way to make glass was found out by accident. Some sailors had gone on shore; they lit a fire, and after a little time noticed a stream of melted glass running from it. This was owing to the quantity of silex or flint, which was in the sand, and the sea-weed being burnt together. Afterwards people improved upon this, and now we get the glass which we use for our windows. How strange, to get glass from stones!

Another kind of stone you know very well; it is that which you write upon and call slate.

Slates are dug out of quarries. When first dug up, those which are fit for use are separated from those which are not. The way to tell the good from the bad is to weigh them directly they are dug up, then soak them some time in water. They are then taken out of the water, wiped dry, and weighed again; if they are heavier this time than they were when first weighed, it shows they have sucked up some water, and that they are porous. These porous slates are of no use.

Slates are used for writing upon as you do in school, for roofing houses, and for making whetstones, chimney-pieces, &c.

Slates are fastened to the roof by means of wooden pegs, and the man who does this work is called a slater. Before slates are fit for writing upon, they must be prepared by being made smooth; this is done by rubbing them with sand and water.

If you were to walk up some mountains in Scotland and other countries, you would find huge masses of very hard stone—this is granite. It is this stone that gives the grey appearance to the mountains upon which it is found. Of course it must be quarried to get it in large blocks. Its great value consists in its hardness; it is used for mill-stones, troughs, and steps; the streets of London are mostly paved with it; London and Waterloo bridges are built of it, besides the parts of buildings most exposed to wear and to the weather.

In some parts of the country stone is scarce; in such places bricks are used for building purposes. F. C. R.

LEAD.

pen-cil
pud-dler
duct-ile
pur-pose
plumb-er
met-al-lic
em-ploy-ed
sol-der
heav-i-er
ex-pos-ed
quant-i-ties
fast-en-ed

Lead is found in this and many other countries. You must not confound it with the black lead of which your pencil is made; that is not lead at all, but a kind of carbon, something like charcoal.

The colour of lead, as you see it, is a bluish grey, and it makes a grey streak on paper if rubbed upon it.

It is very heavy, being about eleven times heavier than water.

When it is first dug out of the earth you would not know it; it is then called ore, and is always found mixed with sulphur.

The first thing to be done with the ore is to pick it and wash it; it is next roasted in a kind of kiln, to free it from the sulphur, after which it is smelted in a furnace and poured into cast-iron moulds, where it is allowed to cool. In this state it is called pig-lead, and is fit for use.

Lead can easily be rolled out into sheets, and bent into any shape, and is used for making gutters and water pipes for houses.

Air and water do not affect lead as they do iron, and some other metals, which you know will rust if exposed to damp. Because it does not rust it is used for lining cisterns.

The men who work with lead are called plumbers; those who dig it out of the ground are called miners, and those who are employed in smelting it are called puddlers.

When two pieces of lead are to be fastened together, it is done by means of a cement called solder, which is a mixture of two parts of lead and one of tin. It is made to stick to the two pieces of lead by using a hot iron, with which it is melted on to them.

Great quantities of lead are used for making shot, for which purpose it is first hardened by mixing arsenic with it. By dropping this mixture, in a melted state, through an iron frame with holes in it from a great height into water, it forms into the round shots you see for sale in the shops. This mode of making shot is said to have been first found out by a person at Bristol. Lead is also used for making type for printing.

Lead mixed with tin and copper in various proportions, forms different kinds of pewter.

Red and white lead are the bases of many other colours, and are used in painting. These are not metallic lead, but are made from it. You must be careful in using lead for any purpose in the house, and great care must be taken if you put any food in a leaden vessel, for if acid of any kind comes near it, the two produce a poison.

When a leaden cistern, or one lined with lead, requires to be cleaned, the lead must not be scraped, otherwise the water in the cistern is likely to become poisonous.

Sometimes you see men tearing up the roads and sinking deep holes; they always have a fire with them. Do you know what the fire is for? It is to melt the lead they use in mending the water or gas pipe they have dug down to find. Large quantities of lead are used for these purposes. Now I suppose you will all be inclined to say with me, What a useful metal lead is! F. C. R.

COPPER.

Dev-on-shire
pin-cers
ver-di-gris
com-pos-ed
pre-par-ed
re-quir-ed
can-dle-sticks
with-er-ed
smelt-ing
en-grav-ing
or-na-ments
fur-na-ces

COPPER is a very useful metal. It is dug out of the ground by men called miners. In this country the principal places where it is found are Cornwall and Devonshire.

The ore is first of all prepared by smelting; that is, by putting it in a large furnace where there is a fierce fire kept always burning, in which the heat is maintained by means of a blast produced by fans made to turn swiftly round by steam power.

Copper is eight times heavier than water.

It is made into wire in this manner. First, the workmen have some round bars of copper given them about a yard long and a quarter of an inch thick; these are drawn through plates of steel having holes in them, the first hole being the largest; they are then drawn through smaller and smaller holes, the last hole making the wire the required thinness. The strips are taken hold of by a pair of pincers, which draws them through the holes in the plate, and the harder they are pulled the tighter they hold the metal.

Plates of this metal sometimes have words or pictures cut upon them, this is called copper plate engraving. Copper is used for covering the bottoms of ships in order to help them sail faster, and to prevent the shell fish from making holes in the wood.

Articles for the kitchen, such as kettles and stew-pans, are often made of copper. People who use them must be very careful to keep them clean, or else they will rust, and the rust of copper, which is called verdigris, is a poison.

Although verdigris is a poison, and must not be put with anything we eat, it is very useful for dyeing purposes. There is one place in France where they make it for this purpose, by placing a number of plates of copper one on the top of the other, with the husks of grapes between them. The verdigris thus forms on the plates, is scraped off, dried, and packed in casks or bags ready for sale.

When copper is mixed with zinc it forms brass, which is more often used than copper itself. Candlesticks, gas-fittings, locks, handles and ornaments of doors, clocks, works of watches, and many other things are made of brass.

Copper mixed with tin makes bronze. It is very strange that bronze is heavier than either copper or tin alone. Being so hard and durable it is used for making statues. Bell metal is composed of three parts of copper and one of tin.

If you were to walk near a copper-works, you would find that all the plants and shrubs are not nice and green, but brown and withered looking; this is caused by the smoke from the furnaces, and shows that it is poisonous. It must be very unhealthy for the men who labour in copper-works.

The greater part of copper is smelted in Wales. Can you tell me why it is sent to Wales? It is because there is much coal there, without which they could not keep up the fires used for smelting purposes.

F. C. R.

THE ASS.

pow-er-ful
fa-tigue
en-joy-ing
var-i-ous
del-i-cate
climb-ing
ig-no-rance
pa-tri-archs
con-tin-u-al
ex-ceed-ing
trou-ble-some
thought-less-ness
ap-pear-ance
com-mon-est
re-mark-a-ble

The ass is an animal which we all know a good deal about. He has some troublesome qualities, but several good ones. In our country asses are not at all handsome animals, and as we have their good qualities in a higher degree in the horse, we do not value them very much.

But it is not so in all countries where asses are found, and if the expense and trouble were bestowed upon them that we bestow upon horses, we should most likely find them improve very greatly. Although in outward form and appearance the ass approaches very nearly to the horse, yet they are two distinct species, and differ entirely in their natures; nor are they fond of each other's company, for we read that, when feeding in herds in their wild state, if a horse happens to stray amongst them they fall upon him, and by biting and kicking nearly kill him.

The ass in his wild state is a handsome, swift, and powerful animal, very different from the half-starved stupid-looking creature we generally find him with us. Wild asses are found in herds in many parts of Asia and America. In one country of Asia they are hunted for their flesh, which is considered by the people very delicate food; and the skin is made into leather. Many of them are also caught, tamed, and used for riding and for carrying burdens. It is very remarkable that, directly they have carried their first load, they lose their active nature and become slow, gentle, and stupid.

The head of the ass is large and thick, with very long ears; the mane is short and upright, and the tail is covered with short hair and stunted at the end. He has mostly a shaggy hide, though in Asia some have smooth glossy hides like horses, and are of various colours, a very light brown with a darker stripe down the back, dark brown, and sometimes even white.

Asses are not at all nice about their food, and will eat the commonest weeds, enjoying what other animals throw on one side; but they are very dainty with regard to drinking—they will take only the clearest water, and they never dip their nose in like the horse. They are very fond of rolling on the ground, which they do whether laden or not, without caring what becomes of their burden; but they never roll in the mud, and always turn away from the dirtiest parts of the road.

When very young the ass is sprightly and good-looking, but as he grows older he becomes slow and stupid; when overladen he hangs down his head and lowers his ears, and if his eyes are covered he will not stir a step. He walks, trots, and gallops like the horse, but soon gets tired, and then no amount of beating will make him go fast. He will bear more fatigue than the horse, and is subject to fewer diseases, living to the age of twenty or twenty-five. He sleeps very little, and does not lie down to it unless very tired. His hoofs are hard, and he is more sure-footed than the horse, and for this reason is often used for climbing the sides of mountains.

In ancient times asses were much more thought of than they are now, for we read of them in many parts of the Bible and find that the rich and noble used to ride on them. They were so much prized that they are always mentioned as a chief part of the wealth of the patriarchs, Job, Abraham, and Isaac. They were kept in herds or droves, and the female seems to have been most valued, perhaps on account of its excellent milk. The Jews looked upon the ass as an unclean animal because it did not chew the cud, and its hoofs were not divided like those of the cow or sheep; but they used it for common purposes, such as for riding and drawing loads. When it died it was thrown into a ditch to be eaten by wild beasts or birds; so that it was a sign of great disgrace to speak of the body of a dead person being 'buried with the burial of an ass.'

We must not forget that we ought to be as kind to the ass as to other animals, as the horse or the cow; and we may be sure that if we are, it will repay our kindness by being more useful. J. W.

LAND AND WATER.

isl-and
A-si-a
pas-sage
isth-mus
o-cean
lan-guage
Eu-rope
A mer-i-ca
It-a-ly
cus-toms
sev-e-ral
con-tin-ent
cov-er-ed
pen-in-su-la
Af-ri-ca

This firm dry land on which we walk has the sea dashing against it all the way round, little as we think of it. In a ship we might pass quite round England and Scotland. All such lands are called *islands*. Some are large, others small; some mere specks on the ocean not large enough for a man to live upon, while others are hundreds of miles long.

A *country* is the name we give to any part of the land where a single nation lives that has its own laws, customs and language.

But some parts of the land are so large that they contain several countries and races of people. We therefore call them *continents*. There are but four such in the world, Europe, Asia, Africa, and America.

When we travel in the train we often go a long way through meadows and ploughed fields where the land is flat. Such land is called a *plain*. Many plains consist of rich and fertile land, but some are covered with burning sand.

All the land is not flat, as some of you know. In some parts it rises up steep and rough, and reaches the very clouds. These high parts are called *hills*, or, if they are very high, *mountains*. The tops of the very highest are always covered with ice and snow.

When hills or mountains are a little way from each other, the low ground between is called a *valley*.

Any land which has the sea nearly all round it is called a *peninsula*. Spain and Italy, you will notice, are like this.

If the piece of land which joins the peninsula on to the rest is very narrow, it is called an *isthmus*. See what a little bit of land joins Africa to Asia. It is the Isthmus of Suez.

The wild sea dashes up against the land and breaks and washes many parts away, leaving the rough sharp rocks running out a long distance. These are called *capes* or *headlands.*

The wide wide waters which roll round the world, we call the *ocean*, or the *oceans*, for we count five of them. These waters are salt, and are never at rest, and from them the sun draws up fresh water for us all.

Smaller parts of these oceans are called *seas.*

A *river* is a stream of fresh water. It begins as a little stream generally upon a mountain side, and grows larger and larger as other streams run into it. Then it runs into the sea, out of which every drop of it came at first.

In some low parts of the land the waters have collected in great bodies. These are called *lakes.* They have land all round them, except perhaps where some stream runs into or out of them. Some are small, others are so large that big ships sail over them.

In some parts the sea reaches a long way into the land. This part of the sea is called a *gulf* or *bay.*

Some seas are almost parted from other seas near them, but have narrow passages leading from one to another. These narrow sea-passages are called *straits.*

R. McW.

THE CHILD AND THE STARS.

spar-kle	re-gion	lus-tre
blos-som	flow'r-ets	fash-ion'd
as-sem-ble	chid-est	com-plain

THEY tell me, dear father, each gem in the sky
That sparkles at night is a star;
But why do they dwell in those regions so high,
And shed their cold lustre so far?

I know that the sun makes the blossoms to spring,
That it gives to the flow'rets their birth.
But what are the stars? do they nothing but fling
Their cold rays of light upon earth?

My child, it is said that yon stars in the sky
Are worlds that are fashion'd like this,
Where the souls of the good and the gentle who die,
Assemble together in bliss;

And the rays that they shed o'er the earth is the light
Of His glory whose throne is above,
That tells us, who dwell in these regions of night,
How great is His goodness and love.

Then, father, why still press your hand to
your brow,
Why still are your cheeks pale with care?
If all that was gentle be dwelling there now,
Dear mother, I know, must be there.

Thou chidest me well, said the father with pain,
Thy wisdom is greater by far;
We may mourn for the lost, but we should
not complain,
While we gaze on each beautiful star.

J. E. Carpenter.

OBEDIENCE TO PARENTS.

sol-dier
pa-rent
per-form
sur-prise
com-plaint
com-mands
grum-ble
re-quest
of-fi-cer
un-pleas-ant
for-bid-den
re-fus-ing

Obedience is a duty which every boy owes to his parents. Just as a soldier has to obey his officer, and perform many duties without a single word of complaint, so should a boy perform his parents' commands or wishes. Never grumble, or say you 'do not want;' but as soon as the order is given, or you know your parents' wish, set about it at once, and it will surprise you to find how much better and quicker it may be done without grumbling than with it.

I know you will sometimes have some not

very pleasant tasks to perform, but you must make the best of a bad matter by doing them well. Grumbling and crying will never help you one single bit; try to think of this the next time you feel inclined to cry or grumble. You will not, however, always have unpleasant things to do, for you will often find it very pleasant to do as you are bid.

Sometimes you will be told not to do a certain thing, and it may be something you very much wish to do. The best thing for you to do in such a case is, to find something else that you may do, and so try to forget your little trouble. I dare say you have often thought, when your parents would not grant a request, or had forbidden you to go out, that it was very unkind of them. But I can assure you that they always had a very good reason for refusing. They can tell a great deal better than you can what is for your good, for they are much older and wiser than you are. But you have no right to ask them their reasons for telling you to do or not to do anything. Then again, if you think of the trouble you have given them ever since you were a little baby; how hard father has had to work to earn money, and how much mother has done for you every day, surely you will do all they wish, and show how grateful you are for what they have done for you.

Perhaps you may not have noticed how

very happy you always feel after you have been obedient; if not, try it next time you are tempted to do wrong. But the good resulting from obedience does not end with you; it makes the person you are obeying feel pleased and happy. Neither does the good end with the person who is obeyed. The child who is always obedient sets a good example to brothers and sisters, playmates and schoolfellows, and by so doing pleases not only his father and mother, but also the great God in heaven.

E. F. Y.

THE COCOA-NUT.

dis-cov-er
pro-tect-ing
pre-par-ing
ex-cel-lent
eas-i-ly
sur-round-ed
a-gree-a-ble
cov-er-ings
whole-some
con-sid-er
ob-tain-ed
um-brel-las

The cocoa-nut, the kernel of which most children are so fond of, comes from a country a long way off, for it is not warm enough in this country to grow cocoa-nut trees in the open air.

The tree upon which cocoa-nuts grow is a kind of palm. It grows to a great height, and its fruit and leaves are at the top, so that it is a hard matter to get up the tree to gather them. There is a tale told of some sailors who hit upon a very good plan for getting them down, with little trouble to themselves;

they found that if they threw stones up at the monkeys which were enjoying themselves in the trees, the monkeys in return pelted them with cocoa-nuts, which they could easily get for that purpose. The sailors, you see, were more cunning than the monkeys.

The cocoa-nut palm is very useful to the Indians. It provides them with clothing, food, and the means of protecting themselves from the fierce heat of the sun, which is so great in those countries. The nut when growing is surrounded by long narrow leaves, and has two shells, an outer one which is rather soft and fibrous, and an inner one which is hard and firm, and is often made into fancy cups and bowls that look very pretty.

Before the kernel is ripe, it is a soft, pulpy mass, which when pressed in a mill yields cocoat-nut oil. The young nut is also eaten by the natives, who consider it wholesome and pleasant food.

When the nut is full grown and ripe, the kernel is white and solid, and about an inch thick, lining the inside of the shell.

The trunk of the cocoa-nut tree is full of fibre, from which is made a strong kind of cord, and also a coarse cloth much used by the natives. It is prepared by soaking it for some time in water. The fibre of the outer shell is also used for this purpose.

The solid part of the trunk of the tree is used for building the huts in which the Indians live, and for making their boats, called canoes.

In the spring they tap the tree, by boring holes in the trunk. From these holes there flows out a pleasant drink, much liked by the Indians. When first obtained, it is cool and refreshing, but after a time it ferments, becoming strong like brandy, and in some parts wine is made from it.

The leaves, which hang from the top of the tree, are sometimes as much as four yards in length. These the natives plait together, thus making excellent coverings for their houses. They use them also for umbrellas, when walking about in the day-time, to keep off the heat of the sun, which, as I told you before, is very great in the country where the cocoa-nut tree grows.

Their hats are also made from the leaves, sewn together by means of the fibre.

The cocoa-nut matting that we find so useful in our houses is made from the fibres of this tree.

There are several other kinds of palm trees besides the cocoa-nut palm, and all are very useful. Dates, which form a large part of the food of the Arabs, are the fruit of the date palm. The buds of the cabbage-palm are boiled and eaten. Sago is made from the pith of the sago-palm. F. C. R.

THE PIGEON.

car-ri-ers
mes-sage
cre-a-ted
a-bat-ing
jac-o-bins
be-sieg-ed
in-struct
fast-en-ed
in-creas-ed
re-mem-ber
val-u-a-ble
en-treat-ing

THERE are many different kinds of pigeons. Among the number we may name carriers, tumblers, jacobins, croppers, pouters, punts, turbits, shakers, fantails, owls, and nuns.

The carrier is the most useful of these, for it can be trained to carry letters from one place to another a long distance off, and never lose its way.

The trainers teach this bird by taking it first a short distance from its nest, letting it find its way back alone. They take it farther each time, till at last the distance is increased to many miles, when it still finds its way back. In times of war these birds have been used to carry messages from a besieged city to friends who lived a long way off, and this was their only means of sending news. When it first starts on its journey it mounts straight up in the air to a great height, flies round a few times, and then darts off in a direct course for its home.

Would you not like to have a carrier pigeon? Yes, I know you would. If you ever have one given you, I hope you will treat it kindly, bearing in mind that God created it, and gave it the instinct which makes it so useful to man.

The tumbler is an amusing bird. Did you ever see one fly? If you were to watch one, you would see it flying steadily along, when all at once you would think it falling; but it is not so, it is merely tumbling, which it does very often in its flight.

There is one bird belonging to the pigeon family that is said to be the kindest of all birds. I dare say you have heard of it. It is called the dove. There is something especially winning and meek in this bird. It is a favourite with everybody, and is so harmless and gentle that it is often used as an emblem of innocence and trust, as the olive-leaf is of peace. Both are referred to in the following lines:—

When peace has departed the care-stricken breast,
And the hearts of the weary ones languish for rest;
When the world is a wide-spreading ocean of grief,
How glad the return of the bird and the leaf!
A conscience at rest is the sweet bird of love,
And peace is the olive she brings from above;
The tempest abates, there is sun after rain,
Beautiful dove, thou art welcome again.

When the pigeon once builds its nest, and rears a brood of young in a place, it never forsakes it. If you were to take it somewhere a long way off, it would find its way back again.

Pigeons only leave their homes to provide themselves with food.

Pigeons are very light, and from the strength of their wings are enabled to fly very swiftly. They are found in every climate, but thrive best in warm countries. In America there are sometimes such immense flocks of wild pigeons, that when flying they appear like a great cloud darkening the sun.

F. C. R.

SILVER.

pre-cious
ap-pear-ance
beau-ti-ful
fre-quent-ly
quan-ti-ty
pro-cur-ed
sep-a-rate
sub-stance
sul-phur
dis-solves
ex-tract-ed
em-ploy-ed
pho-to-graphs
car-ry-ing
strap-ped
suf-fi-cient
for-mer-ly
do-mes-tic

Silver is one of the precious metals, and in appearance one of the most beautiful. It has been frequently found in Great Britain mixed with lead, but the largest quantity is procured from the mountains of South America, and there it is found in a nearly pure state.

Silver is easily separated from the other substances with which it is found. It is first roasted with salt, to remove any sulphur which may be present. It is then mixed with mercury and placed in a furnace. The mercury dissolves the silver from the other impurities; the heat causes the mercury to go off in a vapour, and the pure silver remains.

Silver is extracted from lead by melting the ore in the open air. A large fire is made, and the ore is thrown into it; the lead is burnt and the molten silver flows out at the bottom.

Many thousands of men are employed in the silver mines of Chili and Peru. These mines are in the form of rooms, and they get at them by means of very steep ladders. While some men dig up the ore, others are employed in carrying it to the top, and in order to do this the more readily they have the ore strapped to their backs.

Silver, like gold, can be beaten out into a very thin leaf, and can also be drawn out into very fine wire.

Silver is used for coining, and in order to make it of sufficient hardness, a certain quantity of copper is mixed with it. Great quantities of silver are made into crowns, half-crowns, florins, shillings, sixpences, and smaller coin. The place where gold, silver, and copper coins are made is called the Mint.

Silver is made into various articles for domestic use, such as teapots, mugs, candlesticks, and spoons. The man who makes these articles is called a silversmith.

Plated goods are now in very common use. These articles are made of common metal, and then coated with silver. The process of plating used to be carried on as follows:—A thick, stout bar of copper was taken, and on it was laid a thin sheet of silver. These were bound together with wire and heated, when they became united. The bar thus formed was then rolled out into a large sheet, and used in making forks, spoons, dish-covers, teapots, and many other useful articles. Most goods are now made of common metal first, and then plated. This is done by mixing silver and mercury together, and covering the articles with the mixture. They are then placed in a furnace, when the mercury goes off in a vapour, and the silver remains fixed.

When electro-plate is made a quite different process is gone through, which is too difficult for you to understand at present.

Caustic, which surgeons use, is made from silver; and nitrate of silver is used in taking photographs.

E. C.

JOHN HOWARD.

ap-pren-tice
re-cov-er-ed
cir-cum-stance
suf-fer-ed
re-liev-ing
ed-u-ca-tion
bus-i-ness
mas-ter-y
voy-age
pris-on-ers
con-fess-ed
earl-i-est
se-ri-ous
prop-er-ty
pas-sen-gers
var-i-ous
dis-ease
wher-ev-er

We call those men great who have done brave deeds in war, or who have found out new and useful things or new countries. John Howard was as truly great as any of these, though in a different way. He was the son of a city merchant, and was born at Hackney, near London, in 1727. His father dying when he was very young, Howard left school at an early age, but he seems to have had from his childhood that wisdom that comes from God only. Those who took charge of him after his father's death bound him apprentice to a grocer. But he did not like this business, nor did it agree with his health. At the age of 16 he had a very serious illness, and as soon as he got well put himself upon a diet of tea and bread, giving up the use of meat. This was no doubt a mistake on his part, yet it shows that he had a strong and useful mastery over himself.

As his father had left him a large property, he made up his mind to live as a private gentleman. A circumstance happened, however, which caused him to change his mind in this matter. Being on a voyage to Portugal, the ship in which he sailed was captured by the French, and he and his fellow-passengers were taken to France and put into prison. The hardships he suffered there caused him to think of the hundreds of poor prisoners whose lot was even worse than his. He now resolved that from henceforth his life should be spent in trying to lighten the misery of the sick and the captive. For this purpose he travelled through the various countries of Europe, visiting the prisons, and spending both time and money in relieving the wants of his wretched fellow-creatures. So great was his success in this noble work, that before he died, both rich and poor confessed that he was one of the most useful men the world had ever seen. The manner of his death was not less noble than his life.

In 1789 he left England for the last time; and, visiting the prisons in Germany and Russia, he came to Cherson, a town in the south of the latter country. Here a fever of a very fatal kind was raging, and hundreds were dying daily. Nothing afraid, this noble worker made himself useful wherever he could, and visiting a house where a young lady was lying ill of the fever, caught the disease of which he died in 1790.

His death was mourned by all classes, and his remains now lie in Westminster Abbey, among those of the great and good. A monument to his memory stands there, which fitly represents him as trampling upon chains and fetters.

We cannot all visit prisons and give large sums of money for the good of the poor as John Howard did; but we can all do our best to comfort the sick and needy around us.

T. W.

WHO LOVES ME BEST?

re-plete
shield
earth-ly
al-ways
noon-tide
per-ish
branch-es
laugh-ing
art-less
tongue
pro-tect
health-y
clus-ter-ing
con-fess-ed
un-chang-ing
straw-ber-ries
de-light-eth
e-strang-ed

Who loves me best? My mother sweet,
Whose every look with love's replete;
Who held me, an infant, on her knee—
Who hath ever watched me tenderly;
And yet I have heard my mother say
That she some time must pass away;
Who then shall shield me from earthly ill?
Some one must love me better still.

Who loves me best? My father dear,
Who loveth to have me always near;
He whom I fly each eve to meet,
When pass'd away is the noontide heat:
Who from the bank where the sunbeam lies
Brings me the wild wood strawberries.
Oh! he is dear as my mother to me—
But he will perish, even as she.

Who loves me best? The gentle dove
That I have tamed with my childish love,
That every one save myself doth fear,
Whose soft coo soundeth when I come near;

Yet perhaps it loves me because I bring
To its cage the drops from the clearest spring,
And hang green branches around the door:
Something, surely, must love me more!

Who loves me best? My sister fair,
With her laughing eyes and clustering hair!
Who flowers around my head doth twine,
Who presseth her rosy lips to mine,
Who singeth me songs in her artless glee,
Can any one love me better than she?
Yes, when I ask'd, that sister confess'd,
Of all, she did not love me the best!

Who loves me best? My brother young,
With his healthy cheek and lisping tongue;
Who delighteth to lead me in merry play
Far down the green wood's bushy way;
Who showeth me where the hazel-nuts grow,
And where the fairest field-flowers blow;
Yet perhaps he loves me no more than the rest—
How shall I find who loves me best?

My mother loves me, but she may die;
My white dove loves me—but that may fly;
My father loves me—he may be changed;
I've heard of brothers and sisters estranged;
If they should forsake me, what should I do?
Where should I bear my sad heart to?
Some one, surely, would be my stay—
Some one must love me better than they.

Yes, my child, there is one above,
Who loves thee with an unchanging love;
He who formed those frail dear things
To which thy young heart fondly clings.
Even though all should forsake thee, still
He will protect thee through every ill.
Oh! is not such love worth all the rest?
Child! it is God who loves thee best.

ANON.

IRON.

eas-i-ly
a-bund-ant
e-spe-cial
com-bin-ed
im-mense
fur-nace
ob-tain-ed
chan-nel
em-ploy-ed
pud-dlers
ex-ceed-ing
pre-par-ed
beau-ti-ful
po-lish-ed
prin-ci-pal
scis-sors
in-stru-ments
neigh-bour-hood

IRON is of all metals the most useful and of the greatest value to man. It is also very abundant, for it is found in almost every country of the world. The best kind of iron ore consists of the metal united with clay, and the iron is got from it by smelting. The ore is mixed with coke and lime, and the whole is thrown into immense furnaces, lighted and kept at an intense heat by blasts of hot air forced in by steam engines. The iron soon melts, and, being the heaviest, sinks to the bottom, and every twelve hours is let out into channels made of sand. From the shape of these channels the iron is called by the workmen pig-iron. It is very hard and brittle, is easily melted, can be cast into any shape, and is called cast-iron.

Wrought iron is made by a process called 'blooming.' The cast-iron is thrown into a furnace and kept melted by a fire. It remains in this furnace two hours, during the whole of which time men are employed to stir it about. These men are called puddlers. Then the iron is let out of the furnace, and is beaten with large machine hammers until it becomes formed into bars, when the metal is no longer brittle, but is very tough and strong.

Steel is prepared from wrought iron. The iron bars are put into earthen vessels, which are closed up so as to keep out the air. These vessels are placed on charcoal fires for several hours, and the metal is then plunged while hot into cold water.

Iron and steel can be formed into any shape after being made soft by heat, and the article so formed becomes quite hardened again if thrust into water whilst hot.

Cast iron is used for backs of grates, for boilers, pipes, stoves, cannon balls, and many other things. Wrought iron is mostly used for machines and some kinds of tools, while steel is used for making knives, scissors, razors, swords, &c. Springs for watches are also made from steel.

Iron is now largely used in the building of ships, in the place of wood. It is also used in dyeing black and in making ink.

A great deal of coal is required in the smelting of iron. Nature has provided for the supply of this want, for iron is most often found in the neighbourhood of coal-fields.

E. C.

BE KIND.

so-cial
com-mit-ted
re-pent-ed
grat-i-tude
re-mem-brance
self-ish-ness
oc-ca-sion
ca-pa-ble
en-joy-ment
pun-ish-ment
won-der-ful
pa-tient-ly

Of all the social duties that devolve upon us there is not one on which greater stress should be laid than on that of being kind; and if there is one thing in the world more likely than another to make you happy, it is a kind heart.

When you have done a kind action for another, the after-thought gives far more pleasure than the remembrance of any mere enjoyment you may have had, and that is one reason why kind-hearted people are so happy. Another reason is that nearly all the sins which are daily committed, such as lying, stealing, and the like, are done through selfishness, for it is seldom that persons sin for the purpose of doing a kindness to others. These sins often bring punishment upon those who commit them, even years after they have been bitterly repented of. So that if you are kind to others, you not only avoid the ill effects of bad conduct of this kind, but also the regrets with which you would look back on a mis-spent life. Boys and girls! if you wish to be happy in this world, and who does not? '*Be kind.*' If you wish to be happy hereafter, and who does not? '*Be kind.*'

Be kind to your parents, for they are and have been very kind to you. When you were infants, your mothers nursed, and watched, and cared for you with such love as only mothers feel. When you were sick they tended you, and perhaps were the earthly means of saving the lives of many among you. Your fathers worked hard that you might be fed and clothed; and they took delight in seeing you grow up strong and healthy under your mothers' care, and surely you cannot be otherwise than kind to them! Therefore, 'Children, obey your parents in all things,' and watch for occasions of giving them pleasure. It is wonderful how many times a day you can do this if you only try. And when they are old, if they should be spared till you grow up to be men and women, you can show your kindness of heart and your gratitude too by working for them if they need it. And should they not be poor, there will still be many ways in which you may be kind to them.

Be kind to your brothers and sisters, and most of all to those who are younger than yourself. This will tend to make them happy, and be one way of showing love for your parents. Be kind to your schoolfellows; you may often prevent much mischief and sorrow by a kind act; by helping the weak against the strong, by teaching the little ones pleasant games, by helping them with their lessons in a proper manner and at proper times, and by showing them, when you see them doing wrong, that it is, on the whole, much more easy and much more pleasant to do what is right.

Be kind to the sick and infirm; they have heavy trials to bear, and you, who are strong and healthy, may do many little things for them that will lighten their load of sorrow, and ease many a pang. The time will most likely come when you will be glad of some one to do like kindnesses for you.

Be kind to dumb creatures. The same God that made you made them, and they are made in as wonderful a manner as you are. They are also capable of enjoying pleasure, and often show themselves grateful for kindness.

Sometimes it is needful to kill them for food or for other purposes or reasons; but this should be always done in such a way as to cause them as little pain as possible. In training them for domestic use, they may sometimes require punishment, but 'the merciful man is merciful to his beast,' and kindness should always be patiently tried first.

If you would be loved by others, if you

would be happy in this world, and if you would be happy in the world to come, '*Be kind.*' E. T. S.

THE MOUSE

an-i-mal
fam-i-ly
sev-e-ral
de-struct-ive
mul-ti-ply
orch-ards
plant-a-tions
in-jur-i-ous
sev-er-al
en-e-mies
pos-si-ble
sa-vour-y
dif-fi-cult
an-ec-dote
sus-pi-cion
as-so-ci-ate
clean-li-ness
of-fen-sive

There are several kinds of mice, but the chief are the common mouse, the long-tailed field mouse, and the harvest mouse.

The long-tailed field mice are most destructive animals ; they multiply very fast, and live together in great numbers in fields, woods, orchards and plantations. In the wheat fields they do much injury to the seed; and in woods, orchards, and plantations they strip off the bark and nibble the shoots of the trees. They have, however, several enemies. Woe to the unfortunate mouse who shows its nose above ground if a kestrel is flying near; for down comes the bird and carries away the mouse in its talons. At night, too, the owl looks out for the mouse, soon observes its movements, and pounces on the poor animal, who perhaps has no suspicion that so dangerous a foe is near.

The harvest mouse is very small; its whole length is not more than two and a half inches. Its colour is a light reddish brown. In the winter it lives underground, but in the summer it builds a nest of blades of grass, or wheat, among the stalks of corn above ground, or among thistles. When the corn is cut these nests are very often carried with it into barns. The harvest mouse never enters a house of its own accord.

The common mouse finds its way into every building. It enters every cupboard it can, and eats whatever food comes in its way. No one likes to have his food nibbled by these animals, and so every possible means is taken to destroy them. The most common way of catching them is to bait a trap with cheese or other savoury food. When the mouse nibbles the bait a spring either shuts it in the trap or destroys it at once. The trap must be thoroughly washed and the bait changed, after catching one, or you will not be likely to catch another. The following anecdote will show how difficult it is to catch the same mouse a second time.

A gentleman one day caught a mouse in a trap, but instead of drowning it, he resolved to keep it a prisoner. In a short time the mouse made its escape from the cage into a room with stone floors and solid walls. It could not get out of this room, but there were many places where it could hide. The trap was baited and left in the room, but day after day passed, and no mouse entered it. Everything that was possible for the animal to gnaw was taken from the room. At length, after many days, the trap was down, and the poor mouse was caught, but in a half-starved condition. It would not enter the trap a second time until compelled to do so by hunger.

Young mice may be easily tamed, and brown mice are easier to tame than white. The best way to tame mice is to put them in a cage and to keep them fasting for a day or two, and then to feed them from the hand, always making the same call when you do so. The mice will soon learn to connect the call with the food, and will come to the side of the cage directly they hear it. The cage should be as large as possible, with plenty of bars and perches. The greatest attention must be paid to cleanliness, for if this be not done, the smell will be most offensive. It is much the best way to have two sets of bottoms to the cage, so that one can be used while the other is being washed and dried. White cotton wool should be used for bedding.

The dormouse sleeps all the winter, and does not want food till he wakes up in the spring. When he wishes to begin his long nap he rolls himself up into the shape of a ball, as you have seen the woodlouse do, so that you might toss him about for a long time without awaking him. E. C.

TIN.

quant-i-ty
sep-ar-ate
ob-tain-ed
tin-ned
sur-face
sauce-pan
dye-ing
u-ten-sils
dip-ping
sol-der
re-cep-tion
fast-en-ed
pol-ish-ed
do-mes-tic
pur-pos-es
gun-pow-der
em-ploy-ed
Bri-tan-ni-a
pro-por-tion
sup-ply-ing
quick-sil-ver

Tin is one of the most useful of the metals. It is found chiefly in Cornwall, and the quantity obtained is so great that after supplying our own country, thousands of tons are exported every year.

The ore is found in veins, some large and others very small. Gunpowder is often used to break up the ore, which is then collected and sent to the top of the mine. Here it is pounded in a mill, and carried to a large tub of water to be washed. Women and children are employed to wash the ore. It is then put into a furnace with charcoal and lime, when the tin melts away from the other substances, and is poured off into moulds to cool.

Tin is used in dyeing and for various other purposes, but it is much too soft a metal to be made into useful articles in an unmixed state. Many kitchen utensils are made of what is called tin-plate, which consists of thin sheet iron coated with tin. This coating is formed by dipping the sheet iron in melted tin.

The tin worker requires very few tools, but a great deal of skill. When he wants to make a kettle he takes some of the tin plate, cuts out a piece for the body with shears, and then with his mallet shapes it on a block, and afterwards joins it with solder. The solder consists of lead and tin. When the solder is cool and hard, the bottom of the kettle is next cut out, fitted and soldered. The spout is then formed and placed in the front, after a hole has been made for its reception; and lastly the handle is fastened on. The lid has then to be made, and the kettle is finished.

A great number of honest hard-working persons get their living by selling tin-ware, such as kettles, saucepans, nutmeg-graters, cups, candlesticks, and Dutch ovens, in the streets of large towns. Many thousands of pounds are spent every year in this way in the streets of London alone.

Iron and copper vessels used for domestic purposes are always tinned, or else lined with enamel, otherwise they would rust. Melted tin is poured into the vessels when they have been heated, and they are moved about until the metal has quite covered the surface.

Pewter and Britannia metal each contain a large proportion of tin mixed with lead.

Tin mixed with quicksilver is used in making looking-glasses. E. C.

THE SWAN.

do-mes-tic	cyg-nets	orn-a-ment
beau-ti-ful	herb-age	in-tro-duce
per-fect-ly	ban-quets	gen-tle-men
pro-per-ty	whist-ling	trum-pet-er
per-mis-sion	ap-proach	con-sid-er
con-struct-ed	ex-ten-sive	com-merce

THE common swan in its wild state for the most part inhabits the great inland seas or lakes in the east of Europe ; but it has become domestic in most countries. Three kinds are natives of Europe ; the tame swan, the whistling swan, and Bewick's swan. The last two kinds are wild.

The tame swan is a very beautiful bird, perfectly white. It glides along the water, with its neck arched, and is so stately that everyone admires it. In our own country, those who keep them set a mark upon them so as to know them. These marks are always made in the beak of the bird.

The swan makes her nest in the midst of reeds near the water. The nest is constructed of twigs, lined with feathers. The young birds are called cygnets, while the adult male is called a cob and the female a pen.

The swan feeds on grain and any herbage and plants growing along the sides of the rivers and lakes, but very rarely eats fish.

In former times the swan was in high repute, and used to be served up for food at all the great state banquets, but is rarely eaten now.

The whistling swan is so called from the two notes it utters like a whistle. It is to be met with in a wild state in very cold countries, but in the winter it flies in great numbers to a warmer climate, leaving for the north again on the approach of spring.

The Bewick's swan is much smaller than either of the other kinds.

The part of the bird which is most useful to us is the down. It is found almost all over the body of the bird under the feathers, and forms a very extensive article of commerce. It is chiefly used as an ornament of dress for ladies, but costs so much money that only the rich can afford to buy it. The softest beds and pillows are those made of swan's down.

There are three other kinds of swans which require to be mentioned. One is to be found in South America, having a body perfectly white, while its neck is quite black. Another species, to be met with in Australia, has a black body as well as a black neck. This is called the black swan, and it is a very fine bird. Of late years it has been brought into England, and many of them are to be met with on the lakes in gentlemen's parks, and in the Regent's Park Gardens in London. A third kind of swan is to be found in North America. This is called the trumpeter, from the curious noise it makes. Its down and its quills are of great value.

In Iceland the hunting of the swan is looked on as fine sport. It takes place during the month of August, when the birds have lost their quill feathers, and so are unable to fly. The sportsmen ride on small hardy horses which are able to cross the swamps and bogs easily; and they hunt the birds with dogs which are trained for the purpose. E. C.

THE TIGER.

do-mes-tic
pos-sess-es
fur-nish-ed
char-ac-ter
buf-fa-loes
pois-on-ed
neigh-bour-hood
qual-i-ties
pos-si-ble
des-per-ate
croc-o-diles
con-triv-ance
dan-ger-ous
ter-ri-bly
shriek-ing
el-e-phants
fe-ro-cious
es-teem-ed

Of all the animals of the cat kind, the tiger is the most like our domestic cat, and if we can imagine the latter many times larger and fiercer, we shall have a pretty good idea of the former. Tigers are chiefly found in the warmest countries of Asia; they are not very numerous, and it is a happy thing for the people in the places where they exist that they are not, for they are the scourge of the neighbourhood, and a terror to man and beast; animals, both wild and tame, become their prey, they seem to be always hungry and they kill everything they can. This dangerous animal is found of various sizes, and there is one in India called the Royal Bengal Tiger which is as large as the lion; it is not quite so powerful as the 'king of beasts,' but is more active and fierce; it possesses none of his good qualities, and is therefore more dangerous, besides which it prowls about both day and night.

Of all beasts the tiger has the most beautiful coat—smooth, glossy, and finely marked; it is of a bright orange colour with white underneath, and marked with deep black broad stripes. It differs from the leopard and panther which are spotted by having the colours running in streaks in the same direction as the ribs. It has a long neck and body, short legs, and a round head, its jaws being furnished with very dangerous-looking teeth; in walking it uses only the toes, and when running seems to bound along. Like other creatures of this kind, the tiger seizes its prey by surprise, rather than be at the trouble of hunting it down; for this purpose it conceals itself by rivers and springs in order to be ready for the animals who come to drink. You have seen a cat spring several feet upon a bird, and from this may judge the distance a tiger can spring who is so much larger and stronger.

It is not possible to tame this savage animal; even if subdued it can never be trusted, for its nature is so fierce and cruel that it will snap at the hand of its keeper who feeds it, and though it may be quiet and obey him for a short time, yet it soon shows its stubborn character, and even when confined with bars and chains, continues to make efforts to escape. The female shows great fondness for her young; if they are taken away she will pursue the thief to the very gates of the town or to the sea-shore, howling and shrieking most terribly, and if she loses them will become desperate with rage, slaying everything near her. The great strength of the tiger is shown by the way it will carry large animals, running along as if they were no weight at all. It has been seen to carry a buffalo which weighs over a thousand pounds. It will also attack elephants and even crocodiles, following them into the water.

Although the tiger is such a fierce and dangerous beast, it is often hunted: large parties on elephants and horses pursue it armed with lances, spears, and guns; they beat round the forest until they entirely surround him, and then kill him the best way they can. The natives set different kinds of traps to catch the tiger; sometimes they place strong cages with falling doors into which the beast is enticed by a goat or dog inside as a bait; at other times they place sharp pointed stakes in deep pits slightly covered over, into which he falls. The tiger is only of use to us when he is dead, and then his skin alone is of any value. J. W.

THE PRISONER'S ADDRESS TO A ROBIN.

re-treat
op-press
war-ble
pris-on-er
lib-er-ty
blush-es
un-feel-ing
treas-ure
dis-tress
ver-dant
con-fine
pleas-ure

Welcome! welcome! little stranger,
  Welcome to my lone retreat,
Here secure from every danger,
  Hop about, and chirp, and eat.
Robin! how I envy thee,
Happy child of liberty.

Hunger never shall distress thee,
  While my meals one crumb afford,
Colds and cramps shall ne'er oppress thee
  Come and share my humble board.
Robin, come and live with me,
Live, yet still at liberty.

Soon shall spring, with smiles and blushes,
  Steal upon the blooming year;
Then, amid the verdant bushes,
  Thy sweet song shall warble clear;
Then shall I too, joined with thee,
Taste the sweets of liberty.

Should some rough, unfeeling Dobbin,
In this iron-hearted age,
Seize thee on thy nest, my robin,
And confine thee in a cage;
Then, poor robin, think of me,
Think—and sigh for liberty.

Liberty! thou brightest treasure
In the crown of earthly joys,
Source of gladness, soul of pleasure,
All delights besides are toys:
None but prisoners like me
Know the worth of liberty.

James Montgomery.

CHEERFULNESS.

fan-cy
peo-ple
naught-y
pleas-ant
our-selves
ev-er-y
hap-pi-er
snarl-ing
com-rade
cheer-ful-ness
pret-ti-er
school-fel-low

We must not forget, as we are trying to do our part in the work of the great world, that what we say, and what we do, and how we look, can make many other people happy or sad. We must not fancy that any one of us is too young or too small to take some part in other persons' joy and sadness. It is our duty to be as cheerful as we can, and not to trouble those who are about us by our cross words and dark looks. Of course, I do not mean that we can always smile and look joyful; there is a time for everything, and sometimes every one's heart is heavy, made sad by some trouble which God has thought best should come upon us, or which our own naughty words and deeds have brought upon ourselves—then we cannot be, and ought not to be cheerful; but, as a rule, every day we ought to look bright and happy, and say kind and pleasant things to those about us.

I dare say most of us have thought how dark and cross everything looks out of doors, when there are thick, heavy clouds in the sky over our heads; the birds do not seem so merry, they do not sing so sweetly, and the flowers do not look so gay as usual. But what a great change there is when the warm sun shows his bright face and drives away the dark clouds! then the birds choose a merry tune and sing to one another, and the flowers look happier and prettier.

It is so with boys and girls. We often see a merry party made sad and cross by some surly, sulky comrade who thinks only of himself; and we often see a whole schoolroom made bright and smiling when some kind, cheerful face looks in, and some kind, cheerful voice says something pleasant.

A good many of us will say, perhaps, that we can't help feeling put out, that we don't mean to make others unhappy, but we can't be bright and cheerful. That is just what

Harry Crispin said to his schoolfellow Tom Davis, a fat, merry boy with a bright smile and twinkling eyes.

'I tell you what it is, Harry,' said Tom, 'you are not so cheerful as you ought to be, because you are always thinking about yourself, your own books, and tops, and pennies, and cakes, and fun. You are just like Jane Allen, who thinks of nothing but that doll of hers, and who is always snarling and snapping for fear anyone should touch it; no one likes her to come into the room, she is so cross. Bessie Plummer is the girl I like; she always seems to have something kind to do for some of her playmates. She is not always thinking about herself and her own troubles; she tries to make others cheerful and happy, and she seems always to be cheerful and happy herself.'

Harry knew his friend was right. He did his best. In time what was hard at first became easy, and Harry grew bright and cheerful and won twice as many friends as before.

W. E. C.

DEER.

in-clud-ed
ant-lers
ven-i-son
del-i-cate
dif-fi-cult
quad-ru-peds
con-nec-tion
ad-mit-ted
spe-cies
pur-pos-es
orn-a-ment
ac-cord-ing
pa-tient
des-o-late
rein-deer

ALL the different animals included under the name of deer have a very fine shape, are among the most beautiful of quadrupeds, and seem made by nature to ornament the woods. They delight in wide open countries, and are found bounding with great swiftness over the plains and forests of every quarter of the globe. There are about fourteen different kinds, all very active and graceful, the males having fine branching horns. They live together in herds in their wild state, and in this country gentlemen often keep large numbers of them tame in their parks. The chief animals of the deer kind are the stag or hart, whose female is called a hind; the fallow deer or buck, whose female is called a doe; the roebuck, the elk, and the reindeer, or, as it is sometimes spelt, raindeer.

The stag is almost unknown in England in its wild and natural state, being generally kept in parks under the name of red deer, as its colour is usually red or brown; it has large branching horns, which are shed every year, and new ones take their places. This occurs to all animals of the deer kind; the first year they have no horns, but only a small knob covered with a thin hairy skin; the second year the horns spring out single and straight; the third year two branches appear, which increase in number yearly until the sixth. These horns or antlers are shed early in spring; they lose all connection with the other part of the body, the velvet covering dies and peels off, and then down go the antlers to the ground, either from their own weight or by being rubbed against the trees; sometimes the deer loses them while drinking, and they are found in the water. The place where they stood is quickly covered over with skin, and new ones soon sprout out larger than the former pair. The stag is known to live to the age of forty, and differs in size and beauty according to the quality of its pasture; it has a soft, bright eye, and is able to smell and hear very keenly. Stags are kept in England for the sake of hunting.

Fallow deer are very rarely found wild in forests, but are mostly bred in parks for the sake of their flesh, which is called venison, and their horns are broad and spread out like the palm of the hand, while those of the stag are round. There are two kinds—the spotted and brown.

The roebuck is one of the smallest of the deer kind, and is found in Scotland and in other parts of Europe and America; its horns have only three branches. It differs from the other kinds by not living together in herds; the male, female and young ones only mix together—no strangers being admitted. They live more upon the tender branches and buds of trees than upon grass, and their flesh is said to be the most delicate.

The elk is far beyond the other kinds in size, and is said to be sometimes almost as large as the elephant. In America it is called the moose deer. It has very long legs, which make it of great stature, and delights in cold countries, feeding upon grass in summer and upon the bark of trees in winter. It is hunted over the snow by the Indians for two or three days together for its flesh and skin, which when tanned makes very strong leather.

Of all the species of this kind the reindeer is the most wonderful and of the greatest use to man. It lives in the icy regions of the north, and soon dies if brought into warmer countries; it is not so large as the elk, and differs from all the others by being tame and patient. The female alone of this kind has horns, which are flat and branching, but not so large as those of the male, and has thick legs and broad cloven hoofs to prevent it from sinking in the snow. The hairs on its body are so close together that it is difficult to see its hide, and they change in colour from brown to a greyish white as winter draws near. Reindeer feed upon a kind of moss called lichen which grows beneath the snow, and form the chief wealth of the people who live in Lapland, serving all the purposes which the horse, the cow, and the sheep serve us. When dead there is no part of this animal which is not of use, and the Laplander who has a good herd of reindeer wants for nothing. J. W.

A CUP AND SAUCER.

sau-cer
meas-ure
pat-terns
dur-a-ble
sat-is-fy
out-side
sub-stance
dis-trict
pow-der
gran-ite
pic-ture
de-sign
Burs-lem
prin-ci-pal
beau-ti-ful
im-pro-ved
earth-en-ware
pre-par-ed
thor-ough-ly
com-plet-ed
Staf-ford-shire

We all of us know well what cups and saucers are, but few are able to tell how they are made.

Formerly crockery, as people call common cups and saucers, jugs, and such things, was neither so pretty nor so cheap as now. But about a hundred years ago, a clever man named Josiah Wedgwood greatly improved this branch of our trade, and it is owing to him, in a great measure, that we are able to get cups and saucers, and plates and dishes, of such beautiful patterns, and such strong and durable make.

The finest china-clay in England is found in Cornwall, but coarser kinds are dug from the earth in the districts where earthenware is made. After the clay is taken from the ground, it is washed in pools called catchpools. This is done to separate it as much as possible from stones and coarse clay that may be mixed up with it. It is then ground in a mill, and reduced to a substance like thick cream.

This clay, however, would not be by itself strong enough to make into a cup and saucer. If made of this only, it would break in pieces at the slightest fall. Something is wanted to mix with the clay to make it firm and strong. For this purpose, flint burned to powder, granite, and other substances are employed. When the ground flint, granite, &c., have been thoroughly mixed with the clay, it is ready to be made into a cup or saucer.

For this purpose the potter takes the clay to the throwing-machine, which is something like a turner's lathe, and begins with his hands to mould it into the form which the vessel has to take. Sometimes, however, a mould is used for this purpose. When the cup and saucer have been thus made, they are dried for about forty hours, and then piled one above another, and baked in very hot ovens, which after having been kept at a great heat for a certain time, are left to cool slowly.

The cup and saucer are now hard and white, but they are also very rough, and have no pictures, or designs on them. These designs are first printed on paper, which, while the colour is still wet, is pressed on the ware. The paper is then washed off, leaving the design on the cup or saucer, which is then dried before a fire, so that the pattern may be firmly fixed upon it.

The cup and saucer, having the design or picture printed upon them, are then thoroughly baked. They would not satisfy us, however, in their present state, as they are very rough on the outside, and all our earthenware is smooth and shining. In order to make them like this they dip them into a substance called *glaze*, made of white lead, flint, and granite. It is then again baked, and the work is completed.

The best kinds of cups and saucers are made of what is called china or china-ware. This is made in a similar manner to crockery, but the clay used is of a much finer quality, and when baked is nearly transparent. The patterns or designs are often very beautiful, and, in the more expensive kinds, are painted by hand in gold and different pretty colours.

The district in which earthenware is made, is called 'The Potteries,' and is in the northern part of Staffordshire. G. I.

THE GOOSE.

do-mes-tic
cot-tag-ers
fat-ten-ed
Lin-coln
cour-age
earl-i-est
en-larg-ed
cru-el-ly
pre-par-ed
Som-er-set
or-na-ments
prob-a-bly
poul-ter-ers
Mich-ael-mas
pos-sess-es
sa-ga-ci-ty
sud-den-ly
E-gyp-tian

THE domestic goose has been known in England from the earliest times. In other countries it is found in a wild state. The male bird is called a gander, and the young ones are called goslings, which simply means little geese.

Geese are mostly kept by farmers and cottagers. They are reared in large numbers in the counties of Lincoln, Somerset, and some parts of Scotland. In Lincolnshire one man alone will keep as many as a thousand geese. Large numbers of them are driven to London in the spring, when they are bought by poulterers, who have them fattened for the market. Oats, peas, and milk are given for the purpose of fattening them. Geese will also eat grass. Many of the farmers are in the habit of keeping large flocks of them on commons, and they thrive well if they are also fed with oats morning and evening.

The goose is largely used as food in our country, but chiefly at Michaelmas and Christmas, and its flesh is very savoury.

The eggs of the goose are too strong in flavour to be eaten. Its feathers and quills, however, are very useful. After being prepared and dried, the former are used for beds and pillows, and the latter for pens.

Wild geese are found in almost all parts of the world. The Egyptian goose is abundant in a wild state along the banks of the Nile, and over the whole of Africa. The Canada goose is to be found in the middle and northern regions of North America. The Chinese, or sevan goose, is a native of Asia.

The Canada goose is largely used for food in its native place, but the Egyptian and Chinese geese are kept mostly as ornaments to ponds and lakes.

The goose is often spoken of as the most foolish of birds, probably from its awkward gait. The following stories will show, however, that it is sometimes both bold and sagacious.

Several geese were feeding together in a farm-yard, with a sparrow near them, when a hawk suddenly appeared on the scene. He darted at the poor sparrow, and was just going to carry it off, when one of the geese struck him a violent blow on the head which so stunned him that he was obliged to drop the poor little bird.

An old goose, which had been sitting upon some eggs to hatch them, was seen to leave her nest and go to an outhouse where was a young goose. It is supposed that the old one in some way made known to the young goose that she was ill, for the latter came back, climbed up into the nest, sat upon the eggs, hatched them and brought up the brood. The old goose, as soon as the young one had taken her place, sat down by the side of the nest and died. E. C.

A TABLE-CLOTH.

un-ti-dy
eas-i-ly
wool-len
Sy-ri-a
Da-mas-cus

dis-com-fort
po-ta-toes
ex-pens-ive
ap-pear-ance
pin-a-fores

ar-rang-ed
pre-fer-red
in-jur-ing
ma-chines
fur-ni-ture

We all like to see a good dinner on the table, meat and potatoes, puddings and pies. But if these were merely put upon the table, and we were told to help ourselves, we should be obliged to do so in a very rude and savage fashion, which would cause discomfort, dirt, and waste. We need knives to cut our food, and forks to carry it to our mouths; dishes and plates to hold it, and among other things, a cloth to cover the table. And all these should be neatly arranged, for an untidy dinner-table is no credit to anyone.

Every little girl should learn, and it is a good thing for little boys to know, how to lay the cloth. She should spread it smoothly upon the table, taking care that the sides and ends of the cloth fall evenly over those of the table. Then the table-spoons and salt-cellars should be placed at the corners, and a knife, fork, spoon, and glass placed for each person, or more, if they are required. Dish-mats should be placed where the dishes are to stand, so that the cloth may not be stained or greased, and the table injured by the heat. The cruet-frame, containing mustard, pepper, and other things should be placed in the centre.

As the table-cloth soon becomes soiled by use, it should be such a one as can be easily washed. It would not be proper, then, to make it of woollen cloth, or worsted, or silk, or to dye it blue, or crimson, or green. Such table-covers are, it is true, used for our parlour tables, but they would not do for dinner-cloths.

Our dinner-cloth, then, must be made either of linen or cotton, both of which are white, or nearly so, and can be easily washed. Of the two, linen is much to be preferred, as it takes a beautiful gloss after washing and mangling, keeps its colour better, and lasts much longer. But as it is much more expensive than cotton, the latter is sometimes mixed with it, though all the best table-cloths are made of linen only.

A table-cloth is not, like a sheet, a piece of linen cut off a roll and hemmed. It is woven as a whole, and can neither be cut smaller nor joined to make it larger without injuring its appearance. It is not plain in texture, like common linen, but is woven in patterns. Sometimes these patterns are small and simple, like the diaper for children's pinafores, but sometimes they are large and beautiful, with figures of birds and flowers, and other pretty objects.

As these patterns are formed by the different direction given to the threads in weaving, it follows that greater care, more expensive machines, and a larger number of threads are needed than for plain weaving. These are the reasons why large and handsome table-cloths are so expensive, the price being sometimes as much as several pounds.

Stuffs of any kind woven in patterns are called damasks, from Damascus, in Syria, where they were first made. There are silk damasks for ladies' dresses, stuff or woollen damasks for curtains and furniture, and linen damasks for table-cloths.

Most of our best table-cloths are woven at either Dunfermline, in Scotland, or Belfast, in Ireland. Not much linen weaving is carried on in England, as the flax of which linen is made is more easily grown and worked in a wetter climate than ours.

E. T.

FOWLS.

do-mes-tic
ex-cept
pur-pos-es
doz-en
Su-ma-tra
quan-ti-ty
scratch-ing
suf-fi-cient
gen-er-al
at-ten-tive
watch-ful
en-cour-age
fas-ten-ed
e-nough
pos-ses-sion
vul-ture
suc-cess
col-lect-ed

No other bird is of so great use to us as the barn-door fowl. Everyone has eaten its eggs at some time or other, and knows how very nice they are. Its flesh, too, is very good food; but, owing to its high price in this country, it is seldom eaten except by the rich.

The use of fowls for domestic purposes was first known in India, and it was from that country that they were brought into England. The fowls of India, Sumatra, and Java are very fine birds.

In our country the chief breeds are the Dorking, the Spanish, and the Hamburg fowls.

One cock and half a dozen hens may be easily kept, and with profit; but they require plenty of pure air, good food, and clear water. The ground where they are kept must be very dry. It is best to have it sloping, so that in rainy weather the water may run off. In one corner of the ground a quantity of sand or ashes should be placed, so that the fowls may roll in them and clean their feathers. Good corn must be given them to eat, but if allowed to wander about they will pick up worms, insects, and leaves of plants for themselves. Their strong legs and feet are given them for the purpose of scratching up their food; and they support themselves on one leg while they scratch with the other. The fowl-house must be dry and airy, and perches must be placed for the birds to roost on.

They go to roost very early in the evening and get up at sunrise; but it is a curious thing that the cocks wake up and crow at midnight, and then go to sleep again for two or three hours, when 'cock-a-doodle-doo!' is heard all over the place. Do you know why they make all this noise? I don't, unless it be to tell the hens that they must begin to think of getting up, or rather, down from their perches and commencing the day's business. When the hen has hatched her brood of chickens, she is put for a time under a coop or wooden cage, and the chicks do not go far away from her. How pleasing it is to see a hen with her brood of young chicks! How attentive she is to them, and how she scratches up the earth in hope of finding a worm or an insect, and then how she cackles to her young ones, who soon scamper towards her and devour what she has found! A hen is a very watchful, tender mother; she is always on the watch to guard her young from harm, and when danger threatens you may hear her calling the chicks, who run for safety under her wings.

Some years ago the sport of cock-fighting was very common. The cocks were taught to fight, steel spurs being fastened to their feet, so that they might hurt one another the more. The sport, however, was so very cruel that it was soon forbidden by law. These animals will fight enough without being taught. A fable is told of two cocks which were one day fighting with great fury for the possession of a dunghill. At last one of them, being beaten, ran into a corner of the henhouse in order to hide itself. The other flew to the top of the house, and began crowing over its victory. Just at this moment a vulture was flying near, and heard the noise. Down it came, and carried off the poor cock in its talons. The other bird, hearing no noise, came out of his hiding-place, and quietly took possession of the dunghill. The conqueror should have been content with his success without boasting of it.

When fowls are killed their feathers are plucked off, dried, and used for filling beds and pillows. E. C.

THE DAISY.

meek-est
but-ter-fly
fav'-rite
se-cure
flow-er
play-ful
joy-ous-ly
dark-some
cheer-ful-ly
shel-ter-ed
al-might-y
morn-ing

THE daisy is the meekest flower
  That grows in wood or field;
To wind and rain and footsteps rude
  Its slender stem will yield.

And when they're passed away again,
  As cheerfully it springs,
As if a playful butterfly
  Had bent it with his wings.

The daisy is a hardy plant
  And in the winter time,
We find it by the sheltered nooks
  Unhurt by snow and wind.

In spring it dots the green with white,
  It blossoms all the year,
And so it is a fav'rite flower
  With little children dear.

Before the stars are in the sky,
  The daisy goes to rest,
And folds its little shining leaves
  Upon its golden breast.

And so it sleeps in dewy night
  Until the morning breaks;
Then with the songs of early birds
  So joyously awakes.

And children, when they go to bed,
Should fold their hands in prayer,
And place themselves and all they love
In God's almighty care.

Then they may sleep secure and still
Through hours of darkest night,
And with the pretty daisy wake
In cheerful morning light.

J. E. Carpenter.

HONESTY.

hon-est-y
our-selves
pleas-ant
spark-led
an-y-thing
be-lieve
be-long-ed
ev-er-y
some-bod-y
smooth-ing
gen-tle-man
whist-ling

There are many ways in which all of us may be honest. We must not fancy that we are quite sure to be honest, so long as we do not take anything, or wish to take anything, which belongs to somebody else. We may never have taken even a pin that belonged to another, and yet, for all that, we may have been quite dishonest in something that we have thought and said.

We are not honest when we try to believe that something wrong we have done is not quite so bad after all. Many of us are very fond of smoothing over our faults and saying pleasant things to ourselves, when we ought to be angry and ashamed of our actions.

A young friend of mine, named Willie, one day went fishing in a little lake, although he had been told not to fish there, because all the fish in the lake, and the lake too, belonged to a gentleman who wished to keep the fishing for his friends. It was a very pretty place; there were fresh green trees upon the bank, and the water sparkled and danced as the sun shone on it. Willie sat down in the shade and fished for an hour. He caught a few perch and then walked home through the fields, but he did not feel very happy at first, for something told him he had done wrong. Then he began to reason with himself. 'What harm can there be, after all,' said he, 'in taking a few small fish out of the water? I was only there a very short time, and, besides, the fish can't all belong to one gentleman any more than the flies and the birds which fly about over our heads. If nobody knows anything about it, what harm can I have done? I shall tell nobody and all will be jolly.' So on he went, whistling. But he forgot he had the fish in his basket, so that when he got home his mother saw the fish, and asked him where he had been. He told her all about it, and made the same excuse to her that he had made to himself.

His mother said 'Willie, my boy, you know you are not speaking honestly when you talk in that way. You did wrong in going to the lake when you have been told to keep away; and, besides that, you have done two things that are not honest; you have taken fish that do not belong to you, and you have tried to make yourself believe that you have done nothing wrong.'

Thus his kind mother soon showed Willie how wrong he had been. If he had not had her to tell him of his faults, he might have gone on from bad to worse. Let us watch and be careful, and never try to make ourselves think we are quite honest when we are not. After the first slip, it is not hard to go on slipping, until we forget all about honesty, and become very wicked and very unhappy.

W. E. C.

BIRDS' NESTS.

chaf-finch
black-bird
mag-pie
part-ridge
mon-key
lux-u-ry
qual-i-ty
swal-low
starl-ing
sub-stance
sim-il-ar
to-geth-er
sens-i-ble
squir-rel
dis-tin-guish
know-ledge
wood-pig-eon
trans-pa-rent
whole-some
nour-ish-ing
par-tic-u-lar

Most boys who live in the country have seen the nests of common birds, which build in hedges and under the eaves of houses, but few learn to distinguish the different kinds, and thus turn their knowledge to good account. The birds who build in the hedges, as the hedge-sparrow, chaffinch, blackbird, thrush, and many others, make their nests of bits of hay and straw, bound together with twigs, and lined with moss, wool, the down of thistles, or any other warm substance that comes in their way.

The crow, the magpie, and the wood-pigeon build in trees, and make their nests of sticks placed cross-ways over two branches. These birds have a higher power of flight, and travel greater distances than the little birds of the hedges and fields.

The partridge, the lark, the grouse, and other birds of this class make their nests in the long grass. The martin, the house-sparrow, and the starling, build their nests beneath the eaves of houses, in old church towers, and similar places. The swallow's nest is made of mud and clay, which the bird brings in its beak in small portions, and plasters up bit by bit. As the plasterer puts hair among his mortar to make it hold better, so the swallow in his house-building employs bits of straw and hair for the same purpose, and lines his nest with feathers to make it snug and warm.

The starling makes its nest of slender twigs, roots, and dry grass. The house-sparrow employs a large quantity of hay, and builds his nest sometimes in the hole of a wall, and at others under the eaves of houses.

Most nests are open at the top, but others, as those built by swallows, are so placed under a building as to be covered at the top, and have the entrance at the side. These little birds know very well where to make the doorway, by which they can enter their houses.

The tailor-bird takes two leaves that grow on a twig, and sews them together at their edges. Instead of a needle, he uses his bill, and the fibres of plants serve him for thread. The weaver-birds are so called from their skill in weaving their nests. They take any stalks or fibres of plants that come within their reach, and weave them together till their nest is formed. This bird has a porch to pass through before he enters his house, and instead of going in at the top, or at the side, he enters from below, and is sensible enough to hang his nest on a branch hanging over a piece of water, so that no monkeys or squirrels are able to enter it.

In China, and the East Indian islands, birds' nests are eaten, and thought a great luxury. The birds which build them are a kind of swallow. Their nests are made of a substance like gelatine, which is nearly transparent. A single pound of these nests is worth in the Chinese market from 2*l.* to 7*l.*, according to their quality. They are used for thickening soup, and are thought wholesome and nourishing, as it is believed that the bird forms them from a particular kind of seaweed. C. I.

PLANTS USED FOR FOOD.

cer-tain
sat-is-fy
coun-tries
in-stance
In-di-a
en-tire-ly
Scot-land
oat-meal
por-ridge
Eng-land
art-i-cle
heal-thy
Rus-sia
cul-ti-vate
Can-a-da
com-po-sed
po-ta-toes
tur-nips
car-rots
pars-nips
af-ford-ing

In every part of the globe men have found certain plants which serve to satisfy hunger, and to make them strong and active. These plants are not the same in all countries. In England, for instance, no boy or girl has his breakfast without eating a certain amount of bread and butter, while in India the children do not know what bread and butter is. In that country they live almost entirely on the boiled rice which we have only sometimes at our dinners.

In Scotland the people employ oats as a principal portion of their food. From this plant they obtain oatmeal, which makes what is called porridge. It is partly from eating so much of this porridge that the Scotch boys are so healthy and strong. In England, as in most countries of Europe, wheat is chiefly used as an article of daily food. It is ground into flour, from which bread is made. In Russia the bread is made from rye, barley, and oats, wheat being grown only in the south.

Oats and rye are plants more hardy in their nature than wheat, and will grow in districts where wheat will not thrive, owing to the coldness of the climate. In North America, and in many countries of Africa and Asia, maize forms the common food of the people. It is the most productive of all food plants, and grows chiefly in warm countries.

In India, China, and other countries of Southern Asia the people depend for their daily existence on rice. It is supposed that one-third part of the human race are nourished by this useful grain. It gives so little trouble in cooking, and is so suitable to the wants of men and women in hot climates, that it forms nearly the whole of their food.

We want not only bread and butter for breakfast, but also tea or coffee, and sugar to make it sweet.

The tea-plant is a native of China, and most of the tea that we use in England comes from thence. Upwards of thirty millions of pounds of tea are consumed every year in this country. Coffee comes from a plant which grows in Arabia, South America, India, and Ceylon. It was first brought to England in 1652.

Sugar, which we get chiefly from the sugar-cane, is another substance that we use as food. It is obtained also from the maple-tree in Canada, and from the beet-root. It is a most useful product, and is welcome in every home. The sugar-candy and toffy, of which children are so fond, is made from either sugar or treacle.

When we come to eat our dinners, we should not think our meal complete without potatoes, which are now grown in nearly every country in Europe. In Ireland the people live chiefly on potatoes. As a change, however, or in addition, we also use turnips, carrots, and parsnips, which are the roots of other food-plants. We also use the leaves of the cabbage, the flowers and leaves of the brocoli, and the seeds of the pea and bean plants. Even the common herbs that grow wild in the fields, as the dandelion and the liver-wort, serve useful purposes to man in affording him simple and harmless medicines.

J. I.

PLANTS USED FOR CLOTHING.

quant-i-ty
sep-a-rate
ma-chin-er-y
for-mer-ly
pin-a-fore

won-der-ful
ne-groes
var-i-ous
ex-pens-ive
fam-i-ly

shoe-ma-ker
fi-bre
to-geth-er
net-tles
cloth-ing

Plants not only supply us with food, but also furnish us with clothing to protect us from the cold of winter, and the changes of the weather. The most useful of these is the cotton plant, which grows in vast quantities in the southern part of North America, Egypt and India.

This plant has a yellow flower, and the seeds are black in colour. As a lining for these little black seeds, the pod or shell in which they are found contains a quantity of a white downy substance, which we call cotton. During the cotton harvest all the persons on the plantation where it is grown are called into the field. Each person has a basket or bag hanging from his shoulder, in which he puts the cotton pods, which he separates from the plant. After it is dried they separate the cotton from the black seeds with the aid of machines made for the purpose. It is then exported to various countries, where it is spun into yarn, from which calico is woven. From calico great quantities of cheap clothing are made, as shirts, pinafores, aprons, sheets, stockings, and other things. If it were not for this useful plant, we should not be able to obtain these articles so cheaply as we now do.

The flax plant also supplies us with clothing. It bears a blue flower, and is grown in Ireland and other countries of Europe. It should be borne in mind that it is from the stalks of the flax-plant that linen is made, and not from a soft down which lines the seed-pod, as is the case with calico. When the flax is fit for gathering, it is pulled up from the ground, the fibres of the stem are loosened by being soaked in water, and these fibres woven together make *linen*. Belfast, in Ireland, is the chief town in which linen is made. It is finer and more expensive than cotton. In old times persons often grew their own flax, and almost every home contained a spinning-wheel, at which the family used to spin the yarn, which was afterwards woven into linen.

Hemp is another plant, which is used to make clothing. It has coarse leaves, something like those of nettles, and bears many flowers, of a yellowish colour. It grows in Russia and other countries of Europe. The fibres of the outer part of the stalk of this plant are used for making clothing. The finer kinds of hemp are used to make cloth for towels. The rougher sort is made into sail-cloth and ropes. The thread which the shoemaker uses to sew the different parts of the shoe together are also made from this useful plant.

The seed of the flax plant, which is called linseed, when pressed furnishes a very useful kind of oil, and is also of great value in making poultices for sore-throat and other complaints. The seed of hemp is used as food for birds. J. I.

THE ANT.

em-met
slug-gard
sun-shin-y
pro-vide
re-gard
les-sons
reg-u-lar
be-lieve
con-cern
sleep-ing
creep-ing
pal-ace

These emmets, how little they are in our eyes!
We tread them to dust and a troop of them dies
Without our regard or concern.
Yet wise as we are, if sent to their school,
There's many a sluggard and many a fool
Some lessons of wisdom might learn.

They don't wear their time out in sleeping or play,
But gather up corn in a sunshiny day,
And for winter they lay up their stores ;
They manage their work in such regular forms,
One would think they foresaw all the frosts and the storms,
And so brought their food within doors.

But I have less sense than a poor creeping ant,
If I take not due care for the things I shall want
Nor provide against dangers in time.
When death and old age shall stare in my face,
What a wretch I shall be in the end of my days
If I trifle away all their prime!

Now, now while my strength and my youth
are in bloom,
Let me think what shall save me when sickness shall come,
And pray that my sins be forgiven;
Let me read in good books, and believe and
obey,
That when death turns me out of this cottage
of clay
I may dwell in a palace in heaven.

Isaac Watts.

INDUSTRY.

in-dus-try	e-nough	learn-ing
play-ground	par-ents	broth-ers
neigh-bour	earn-est	min-utes
think-ing	naught-y	some-thing

No one can be happy who has nothing to do. From the time we are able to think and speak we have a work which must be done. When we are very young this work may be very little ; but it is enough for us, and we ought to do it the very best way we can, and the best way is to do it with all our heart.

When we are at school we must give all our thought to the work which our teachers tell us to do. See how proud and happy we feel as we get on day by day with our learning and win a prize when the proper time comes. If we do not make the best of our time in school we only half enjoy the games in the playground when school is over. An idle boy, one who cares little about his work and takes no pride in doing it well, and loses half his time, must feel that he has not earned the fun and the play that come after. He is sure not to feel quite happy though he may try hard to look and to feel so. And when we have left the school for the day and go home, we need not sit down and fold our hands, or otherwise waste our time. There may be many things for us to do to help our parents in the house or in the garden, or we may have our lessons to prepare for the next day. Our brothers and sisters, too, if we have any, may need our help, and every one has some friends and neighbours to whom he may be of use.

If those who lived before us had been idle people, how much worse off we should have been than we are! We should not know that we can make nice warm clothes from the wool of sheep and the hair of goats, or that a little worm can help us to make silk. We should not know that we can make bricks from clay and build strong houses to keep us from the wind and the rain and the cold. And there are many other things besides that we should never have heard of, if a great many people who lived before us had not been earnest workers, taking a pride in learning something new every day, and taking good care to waste none of the minutes as they fly so quickly by.

And besides all this, working well and with all our heart keeps us from thinking of those things we ought not to think of. Naughty thoughts will not come into our heads so often if we always have something good and useful to do, and keep our minds fixed on it. If we try hard and stick to it, we shall soon get into the way of never being idle. Childhood is the very best time to learn good and useful habits, which will help us very much when we grow older and have to work for our own living, and which are sure to make us happy in the end. W. E. C.

A TABLE-KNIFE AND FORK.

prin-ci-pal
fast-en-ed
I-tal-ians
ar-ti-cle
in-hal-ed
dis-ease
spread-ing
com-mon-ly
cen-tu-ry
ac-cord-ing
par-ti-cles
shoul-der
E-gyp-tians
an-ces-tors
de-struc-tive
per-fec-tion
in-ven-tion
em-ploy-ment

A TABLE-KNIFE has two principal parts, the blade and the handle. The handle is commonly made of wood or bone ; but ivory, stag-horn, buffalo and cow-horn, tortoise-shell and mother-of-pearl are also used for this purpose.

The blade is a long. thin, flat piece of steel, rounded at the top, with a straight blunt edge at the back, and a sharp one in front. The thick part of it, which is close to the handle, is called the shoulder, and the long piece of iron running into the handle, by means of which the blade is fastened to it, is called the tang.

The parts of a fork are the handle, the tang, the shank, the shoulder, and the prongs.

Knives are used for cutting, scraping, and spreading, and are named according to the uses to which they are applied. Thus we speak of the dinner or table-knife, the carving-knife, the fruit-knife, the pocket-knife, the pen-knife, the paper-knife, the butcher's knife, the oyster-knife, the palette-knife, the razor and the lancet.

Knives were not always made so well as in the present day. The ancient Egyptians used flint knives, the people of New Zealand made them of bone, and even sharks' teeth have been used instead of metal for this purpose. They are now brought to the highest perfection in steel, and the best are made at Sheffield, in Yorkshire.

Forks may be made of silver, or of common metal, and plated, but those most commonly used are made of steel. Forks are a more modern invention than knives. Formerly the joints of meat brought to table were held on long skewers, and carried round by the servants, so that each person might cut off with his knife as much as he wanted.

We may wonder at our ancestors doing without so useful an article at table, but their food was dressed in such a manner as to be very tender, and therefore easily pulled to pieces. Some nations, even now, use neither knives nor forks when eating; for a Chinaman will use his chop-sticks, while a native of India will carry a small knife about his person, but will eat his rice and curry with his fingers. It is difficult to convince him that his way is not the best. He will say, 'When you use a fork, you put it over and over again into your mouth, and that is not cleanly according to our ideas.' E. L. J.

WATER.

sup-pli-ed
boun-ti-ful
ap-pear-ing
dis-ease
neith-er
pre-vent
dis-or-ders
re-fresh-ing
pro-por-tion
col-lect-ed
im-port-ance
con-tain-ing
en joy-ed
pow-der-ed
dis-solv-ed

WATER supports every living thing. Neither man nor any other animal could live without it, and trees and plants would soon die if they were not supplied with it. About two-thirds of the human body consist of water.

Water is just what it should be in order to suit our wants; it has no *colour*, and therefore will make us clean; it has no *taste*, and so we do not get tired of it; and it has no *smell*, or it would not be nearly so useful as it is.

It is one of the most bountiful gifts which our wise and kind Creator has given us, and is found in almost every part of the world. Where it is not found men cannot live.

The most dirty houses, clothes, or persons can be cleansed in a very short time by the use of water. There is no excuse for children or grown up people appearing with dirty clothes, or still worse with dirty persons, when such plenty of water may be had.

Water for domestic use may be regarded as either hard or soft. Hard water is very refreshing to drink, but should not be used for washing or cooking ; it is the water from springs, wells, and rivers, and contains a certain proportion of lime—the harder the water the more lime is in it. This lime may be made to settle by boiling, and the water thus becomes soft ; the rock or fur inside tea-kettles or boilers is the lime which has settled in this way during the process of boiling. The longer the water boils the more lime settles, and therefore the softer the water becomes.

Rain water is the purest of all waters; it is called soft water, for in it there is no lime. If it is collected in stone or slate tanks and covered over so as to keep it free from dirt, dust, or dead leaves, it may be used for all domestic purposes. Many persons collect rain water in tubs only for washing and scrubbing ; but they are not careful to cover it over, and so cannot use it for cooking.

In washing it is of the greatest importance that soft water be used. If clothes are put into hard water and then boiled, as is sometimes the case, some of the lime contained in the water is thrown, during boiling, as well upon the clothes as upon the vessel containing them. This produces a brownish tint which cannot be easily removed. If soft rain water cannot be obtained, the water may be made soft either by boiling it for some time, or else by putting soda into it, or a kind of powder made for the purpose and called washing powder.

In cooking such things as cabbage, beans and peas, hard water should not be used ; if soft water cannot be had the water should be made soft, for if they are boiled in hard water they will be hard when done, and not nice to eat. Many persons put a little soda into the water in which they cook their cabbage, &c., in order that they may keep their green appearance, and be tender when done.

Before making tea or coffee, the water should be boiled for some time, so as to render it as soft as possible. When the water has once boiled, there is no need to keep it boiling rapidly; it will make it no hotter, but at the same time we must be quite sure that it is at the boiling-point when the tea or coffee is made.

Water for drinking may be cleared by letting it drain through powdered charcoal or sand. This process is called filtering ; it will remove any substance which has not been dissolved in the water, and will cause it to be bright and sparkling, and more pleasant to the taste.

M. H.

HISTORY OF AN OAK-TREE.

hol-i-day
cen-tu-ries
e-nor-mous
be-gin-ning
cop-pice
plen-ti-ful
ter-rib-ly
fur-ni-ture
quan-ti-ty
qual-i-ties
sur-round-ed
ap-proach-es
scam-per-ed
al-low-ed
com-pan-ions

It is holiday time, and as we take our country walk what finer sight shall we see than that grand old oak standing in the green meadow? it looks like a king among the trees. Look at its thick trunk, and enormous branches stretching far and wide, and reaching nearly to the ground; see how the sheep and cows love to rest under its shade from the burning sun. It is summer now, and its branches are thick with green leaves, so thick that if a shower came on we could shelter beneath them; by-and-bye as autumn approaches, we shall see it studded over with acorns, which will ripen and drop off with the yellow leaves as the cold winter appears. Judging from the size of its trunk and branches, we may be sure that it is of a good age, perhaps nearly a hundred years, for oaks if allowed to grow will live a very long time; and there are several oak trees in England which are known to be two, three, and even four centuries old.

Suppose we imagine this tree to tell us its own history, from the time when it was a tiny seedling. What will it say? Listen! 'I was once an acorn, and though it is a good many years ago, I can well remember growing upon a large tree in the middle of a coppice; we were surrounded by trees of all kinds, and when the wind blew, it howled, and rocked us about terribly. One very stormy night, a great many of us were blown to the ground, and while we lay there, a good number of my companions were eaten up, or carried away by squirrels, rats, jays, pheasants and other small animals which were fond of us. I was beginning to think that I should escape the fate of my friends, when a sharp little squirrel, seeing that I was large and ripe, seized hold of me, and scampered off towards his nest; but being in too great a hurry, he let me fall, and I presently found myself buried amongst a quantity of loose soil and leaves, and as other leaves fell on the top of me in the course of a week or two, I became quite snug and warm.

Soon the leaves had all fallen, and the winter with its frost and snow came, but I was wrapped up so snugly that they did me no harm, and when the spring came, I found myself swelling with warmth and my coat bursting. Then there shot out from me further into the ground several long threads, and upwards through the ground there forced a tiny shoot, which grew day by day until it peeped above the earth. From this time I grew very fast, and in a few years was a tall, thin tree. There were several of us growing up close together, and one day a man came and removed us, and planted us in this field. My companions have from time to time been cut down, but I have remained growing larger and larger every year.'

And now, the oak having finished its history, let us see what will become of it in the future. Perhaps it may grow on year after year, until it becomes hollow with old age, but as its wood is of great value, and it is a fine tree, we will suppose it to be cut down, its branches lopped off, and the thick trunk stretched upon the ground. The bark will then be stripped from it, and taken care of, the branches will be cut into short lengths, and the huge trunk carried away on a wagon, and after lying by for some time, will be sawn into planks and sold to the carpenters or shipbuilders.

Many hundred years ago, a great part of our country was covered with forests, and oak trees were very plentiful, the people using the acorns for food. We read that, in those early times, the oak was treated as a sacred tree, and the priests offered sacrifice under 'groves of oaks.' Our forefathers were fond of using the wood of the oak, because it was very strong and durable; for even when exposed to damp, and all sorts of rough usage, it will last without decay for hundreds of years, and insects find it very hard work indeed to eat into it. For this reason they used it in building ships and houses and for furniture; but we do not use it so much now for either purpose, because of its scarceness. Iron is used a good deal in building ships, and for house-building and for furniture we have other woods, which are cheaper and more showy, but not so strong and durable. But though we do not use it so much, the wood is still prized for its good qualities, and the tree is planted with care in woods and coppices, where in time it stands out from the rest as the 'monarch of the wood.' J. W.

GLASS.

mil-lions
cu-ri-ous
al-ka-li
re-quir-ed
im-a-gine
qual-i-ties
sof-ten-ed
min-er-al
crys-tal
con-struct-ed
fash-ion-ed
de-cant-er
won-der-ful
tho-rough-ly
quant-i-ty
fre-quent-ly
trans-pa-rent
del-i-cate

If we were to see a heap of fine white sand, and notice the millions of tiny grains contained in it, it would puzzle us much to guess how it could be changed into so hard and solid a substance as glass. But let us go into one of the great glass-works, and we shall see that the power which has worked so wonderful a change is heat. It seems strange too, that so hard a substance as glass can be shaped into so many curious forms, and cut into such beautiful patterns; but we need only put a piece of broken glass into a common fire to see how easily it may be softened; and this will lead us to conclude that the glass was in a soft state when it was shaped.

The sand of which glass is chiefly made must be thoroughly mixed with a substance called an alkali. There are various alkalis, but common soda is the best known. Other minerals are added, among which we may mention red lead, but sand and alkali are the chief materials of which glass is made. They are well mixed and then put into a great iron pot, which is placed in a furnace, and exposed for about forty hours to a heat so intense, that the mixture is reduced to the form of a thick fluid like treacle or paste.

When the workman wishes to make a jug, decanter or other vessel, he takes up a quantity of this substance at the end of an iron pipe, and blows into it to make it hollow. Moulds of the shape required, so constructed as to open and divide into two parts, are placed outside the lump to give it its proper shape, or it may be fashioned entirely with tools. Frequently it is both moulded and cut. If it gets cool and so hardens, he heats it again at the mouth of the furnace, and the piece is very quickly finished. There are many ways of making the large flat pieces used for window-glass, looking-glasses, &c.; one is by rolling the substance with iron rollers on an iron table.

We can imagine how badly off we should be if we had no glass. Instead of such windows as we have now, we should have holes with wooden shutters, which would keep out the light when closed, and let in the wind and rain and snow when open. These holes might be covered with canvas, or skin, or oiled silk, or paper, but none of these would let in the light and keep out the weather as glass does. When any substance allows the light to pass through it, we say it is transparent. Glass is so useful because it is so transparent and hard.

These two qualities of glass make it very useful, not only for windows but for drinking-vessels. Its hardness enables us to obtain a perfectly smooth surface, which can therefore be made quite clean, and its clearness enables us to see what we put into it. Its beauty and cheapness too recommend it for use upon our tables. Glass, however, should be carefully handled, for not only is it easily broken by a fall or a blow, but a sudden change from cold to heat is very likely to cause it to crack. Boiling water should never be poured into a cold glass.

Glass can be made of different colours by mixing various minerals with the sand and alkali; or it can be painted after being finished. Stained and painted glass windows are among the most beautiful ornaments of many of our churches.

Glass is used for an immense number of things, besides those which have been mentioned. Rough glass is sometimes used for floors as well as for roofs and skylights. We all know how useful it is to the gardener, enabling him to raise and ripen the plants and fruits of the warmest climates in greenhouses and hothouses; but perhaps the most wonderful use to which glass has been put is the building of the beautiful Crystal Palace, the vast size and strength of which are truly surprising, when we consider the delicate nature of the principal material used in building it.

There are five distinct kinds of glass, each of which is made in a somewhat different way from the others.

1. Common green or bottle-glass, which is the coarsest and simplest of all.

2. Broad or coarse window-glass, which is a common kind of plate-glass.

3. Crown glass, or the best window-glass, formed in large circular plates.

4. Flint or crystal glass, of which tumblers, wine-glasses, lustres, &c., are made.

5. Fine plate-glass for mirrors and shop-fronts.

What is called *cut glass* is cut or polished after having been cast to the required shape in a mould. E. T.

GEORGE PEABODY.

fa-mil-iar
ru-in-ed
bu-si-ness
a-chiev-ed
e-nor-mous
suf-fi-cient
ed-u-ca-tion
ad-di-tion
sim-i-lar
res-i-dence
en-ter-prise
suc-cess-ful
pros-per-ous
de-scend-ed
Hert-ford-shire
Mas-sa-chu-setts
man-age-ment
nu-mer-ous

The name of George Peabody must be familiar to you all, as it is not very long since the whole of Great Britain and America mourned at his death, and paid him such honours as are paid only to great and good men, that have done great deeds for their country. The fact of his having at one time been a grocer's boy, and at length becoming so enriched as to be able to make a gift to the poor of the city of London of the immense sum of £500,000 is sufficient, I think, to make you have a desire to know something more of his history.

The Peabody family from whom George descended, used formerly to live at St. Alban's in Hertfordshire; but a little more than two hundred years ago they went to America, where the family increased very fast and became very numerous—a little village called Danvers, in Massachusetts, being the place of their residence.

Here George Peabody was born on the 18th of February, 1795. His parents were not rich, and all the education they could give him was at the district school of his native village. Even that came to an end very early, for at the age of eleven years he was taken from school, and employed as a grocer's boy in Danvers for about four or five years.

At the age of sixteen, he went to assist his elder brother, who had started a dry-goods store, at a town called Newburyport, a place not very far distant from his own village; but only a few months afterwards a fire broke out which nearly destroyed the town, and ruined their business.

George then went to assist his uncle in a similar kind of shop to that in which he had been engaged with his brother. He was now about seventeen years of age, and while he was living with his uncle a war broke out in America, and for a short time he became a soldier, but finding that his services were not required he returned to his uncle's store. The uncle being a poor man, and, perhaps, not very clever, the business was not successful, and therefore George left him, after being in his service about two years.

He was next employed by a rich man named Elisha Riggs, who gave him the entire management of an important dry-goods business which he had set up. The friends of this man blamed him very much at first, for entrusting a business of such importance to a youth of only nineteen years of age; but George, by his honesty, wisdom, and industry, soon proved himself worthy of his master's confidence.

The business was so successful under George's management, that his master soon made him a partner, that is, allowed him to share the profits with him, and in a few years left it entirely in his hands.

George Peabody was thus, you see, master of a business on his own account. We must now call him a merchant, for his business consisted of buying goods in Europe, and having them carried by ships to America to be sold again. This trade often caused him to make short visits to England, where he gained the esteem and respect of everyone with whom he came in contact.

In 1837, Mr. Peabody resolved to leave the business in America to come and establish one in London, where he was even more prosperous than he had been before. In London and all parts of England he bought British goods, and shipped them for the United States; and the ships came back laden with American produce for sale in England.

People with whom he dealt had such confidence in him, that they entrusted large sums of money to his care, and received interest for it from him; and others borrowed money from him and paid him interest, and in this way he became a great banker as well as a merchant. By these means he gained the enormous amount of money which enabled him to be so generous to those of his fellow-men who had been less fortunate than himself.

No sooner had Mr. Peabody become master of riches than he began to make good use of them. His charity first began with his native village, since grown into a prosperous town. Once when it had been very much injured by fire, he paid a great deal of money towards the rebuilding of it. He gave to the people of Danvers £100,000 to establish an institute, which bears his name. He also gave 150,000 dollars to the Harvard University.

In 1856 he went to Danvers to visit the scenes of his childhood, and to receive the honours which his fellow-townsmen were eager to give him. In his address to them on this occasion, he said—'Though Providence has granted me an unvaried and unusual success in the pursuit of fortune in other lands, I am still in heart the humble boy who left yonder modest dwelling. There is not a youth within the sound of my voice, whose early opportunities and advantages are not greater than were my own, and I have since achieved nothing that is impossible to the most humble boy among you.'

Another great instance of Mr. Peabody's liberality, was in a gift of £200,000 to the

City of Baltimore, where he first set up in business; this also was for schools and libraries.

Mr. Peabody did not neglect his relatives, either, for he divided among them about £500,000.

Then came the more than princely gift to the city of London, which I have already mentioned. With this money large dwellings have been erected at Spitalfields, Chelsea, Bermondsey, Islington, and Shadwell, which are sufficient to accommodate upwards of two thousand poor people.

Our beloved Queen Victoria was so pleased at this excellent gift, that she presented him with a portrait of herself in a beautiful case, and with it, a letter in her own handwriting, thanking him for his kindness to the poor; and thus showing how Mr. Peabody's wish to relieve their sufferings was in accordance with the feelings of her own generous heart towards them. He died in 1869.

And now, I think, from what we have read of Mr. Peabody, we can learn two lessons which will be useful to us if we remember them.

First, that honesty and industry are sure to be rewarded; and secondly, that if we make good use of the blessings which God has given us, we may then hope that He will entrust more to our care.

H. W.

SPONGE.

knock-ed
dif-fer-ent
ex-chang-ed
coars-er
an-i-mal
pow-er-ful
pur-pos-es
pas-sag-es
an-swer-ed
ve-ge-ta-ble
dis-lik-ed
fright-en-ed
med-i-cine
ex-cep-tion
un-der-stand

'My slate is a better one than yours, for it is in a frame, and I have a piece of sponge to clean it with,' said Freddy Harris to Tommy Carter, who sat next him on the form. 'Ah! but mine is bigger than yours,' said Tommy, 'and has not got those nasty white marks upon it which yours has, and is darker and better to write upon.' 'I don't care for that,' said Freddy, 'mine will last longer than yours, for you have knocked the wood off it, and now it will be sure to get cracked.' 'Never mind,' said Carter, 'there are more slates in the school without wood on them than with, and I like to be as the other boys.' This powerful reason of being like other boys was too much for Freddy; he disliked being different from the greater part of the school, and so he began to think that Carter's slate was really the better one. 'I can pull the frame off my slate whenever I like,' said Freddy, 'and then it will be just like yours.' 'No, it won't though,' said Tommy, 'it will be smaller, ever so much smaller than mine; but my slate is too big for me; if you like, Freddy, I will change with you.' 'What will you give me to change?' said Freddy. 'Well done,' said Tommy; 'I like that—what will you give me?' Carter had begun to fix his eyes on Freddy's piece of sponge; he thought of one or two purposes he could put it to—it would clean the slate; it would suck up ink, and above all, he could cut a piece off it and make a water-squirt—a weapon he very much wished to possess.

'You are talking, Harris,' said the Master; 'stand up, you and the boy you are talking with.' Up stood poor Fred, looking very guilty, and Carter also slowly rose from his place. 'Well, what was the talk about?' said the Master; 'you tell me, Harris.' 'Oh, please, sir, I and Carter were exchanging slates.' 'Oh, then I fear I must punish you, for I cannot allow barter to go on in school.' But being a man of quick and ready mind, and not wishing to punish the offenders if he could avoid it, he determined to lead off from the offence, and talk about another matter; so, noticing the bit of sponge on Freddy's slate, he said, 'I suppose you wanted that piece of sponge, Carter, which is hanging down from Freddy's slate, did you not?' 'Yes, sir,' boldly answered Carter; 'I do want it.' 'I am glad you spoke out at once,' said the Master; 'you give me some trouble, Carter, but you always tell me the truth. Stick to that through life and you will make a useful man. Now if you can tell me anything about that piece of sponge I will try to find you a piece just about the same size to do what you please with.' 'Well, sir, that piece of sponge is very useful. You can wash the slate with it, and mop up ink with it, and—' 'What else, Carter?' 'Cut a bit off it and make a squirt, sir.' 'A squirt! What's a squirt, Carter?' 'Something to shoot water at another boy, sir.' 'Ah! Carter, ever fond of mischief. You will get sober some day I suppose, but when that day is to come I cannot foresee. I did not want to know of the uses to which you would put the sponge. I asked for some particulars of its substance.' 'Please, sir, I cannot tell you anything about that, except that small bits of sand and dirt always fall out of the new sponges.' 'Well, boys, I shall talk to you for five minutes about the sponge, and you must listen and then go back to your places, and do your sums. That piece of sponge came from a great depth below the sea's surface. It was once alive, and grew in size much as you see a cabbage-plant grows; but with this exception, the cabbage-plant only breathes, and the sponge breathes and feeds. Many persons think that the sponge is an animal, or rather made up of animal life in a very low form. The animal and vegetable world meet sometimes, and one cannot say for certain where the two blend or mix together—they probably meet in the sponge—and that if the sponge did not get food out of the sea it would cease to grow. When a piece of sponge is first dragged up from beneath, it has shells attached to it; these may have joined on to it or have been the house of some creature which formed the sponge, and some part of its life may be in the sponge itself. You see there are air passages through which breath has passed, and down which food has travelled. The sponge never had feeling, never shrank from touch as some plants do; but yet it sucked up food, and the food made it grow—just as food makes you grow. And then the sponge has uses which you have never thought of. It is of great service to doctors, who place it in wounds to draw out the poison; they also burn it and give its ash as a medicine. I could tell you about the family to which it belongs; the various kinds of sponge which are known; the reason why one piece is finer or coarser than another, but I should have to mention hard names which, at present, you cannot understand. So all that I shall say is, that if you cannot put your piece of sponge to a better use than making a squirt, as you call it, I must decline to give you a piece, Carter; but if you will clean your slate with it, and not cast envious eyes at the piece which Harris has on his slate, I will give you this piece which I have here in my desk, and send you back to your places. Here it is, Carter; promise me you will use it for a proper purpose, and I know you will keep your word.' 'Thank you, sir,' said Carter, 'I will promise.' And Carter got his piece of sponge instead of a caning, but the squirt has never yet appeared in the school.

W. P.

THE MONTHS.

Jan-u-ar-y	Oc-to-ber	daf-fo-dil
Feb-ru-ar-y	No-vem-ber	gil-li-flow-er
Sep-tem-ber	De-cem-ber	de-part-ing

JANUARY brings the snow,
Makes our feet and fingers glow.

February brings the rain,
Thaws the frozen lake again.

March brings breezes loud and shrill,
Stirs the dancing daffodil.

April brings the primrose sweet,
Scatters daisies at our feet.

May brings flocks of pretty lambs,
Skipping by their fleecy dams.

June brings tulips, lilies, roses,
Fills the children's hands with posies.

Hot July brings cooling showers,
Apricots and gilliflowers.

August brings the sheaves of corn,
Then the harvest home is borne.

Warm September brings the fruit,
Sportsmen then begin to shoot.

Fresh October brings the pheasant,
Then to gather nuts is pleasant.

Dull November brings the blast,
Then the leaves are whirling fast.

Chill December brings the sleet,
Blazing fire and Christmas treat.

SARA COLERIDGE.

SHADES OF EVENING.

SEE the shades of ev'ning closing,
Glad we hail departing day;
Now from daily toils reposing,
Hearts are light and thoughts are gay.

Parents with their children meeting,
By the fire are circling round;
Joyous laughter, merry greeting,
Songs and music gaily sound.

Brighter, higher thoughts are springing,
As the moments onward move;
Youthful voices join in singing
Holy strains of heav'nly love.

O, the very heart rejoices,
Gazing on a scene like this;
Blending like those sweet young voices,
Earthly love and heav'nly bliss.

M. A. STODART.

KINDS OF CORN.

ob-tain-ed
ce-re-als
con-sist-ed
pro-tec-tion
hard-i-est
sub-sti-tute
ve-ge-ta-ble
pro-por-tion
par-al-lel
knot-ted
re-sem-bling
im-port-ant
suit-a-ble
be-gin-ning
flex-i-ble
cul-ti-vate
in-hab-it
yield-ing

A GREAT deal of the food we eat is obtained from the vegetable kingdom. Among those plants which supply us with food, very many belong to one tribe which we call *the grasses.* Some of these grasses yield seeds, which form an important article of food to man and beast. We give the name of grain or corn to these seeds, and the plants yielding them are called *corn plants* or *cereals.*

The corn plants contain a very large proportion of a mealy substance suitable for the support and nourishment of animal life.

The principal corn plants are wheat, barley, oats, rye, buckwheat, millet, maize, or Indian corn, and rice.

A corn plant has the following parts—root, stalk, leaves, and grain.

The root is fibrous; that is, formed of a number of thin threads called fibres.

The stalk is long, thin, and hollow, and is divided into several parts by joints, which make it stronger than if it consisted of only one straight piece.

The leaves are long and narrow, and end in a point. They grow from the joints, form a sort of sheath round the stalk for some distance, and then branch out. The veins in them differ from those of most other plants, for they are all straight and run nearly parallel to each other from the beginning to the end of the leaf.

The grain of some of the corn plants is bearded, that is, to each little seed a sort of long bristle is fastened. All the corn plants have not this beard; but each little grain has an outside skin called the husk.

These corn plants, so important as they are, are provided with wonderful means of protection. The length of their stalks raises the seed above the moisture of the earth. The stalks are so smooth that the rain runs down them to the roots. They are knotted, and supported by blades of grass, that their strength may resist the violence of the wind. They are pointed, flexible, and light, so that the birds cannot rest on them to pick out the grains ; and the grains are lodged in husks, so that the sun may not shrivel them up, nor the moisture rot them. Corn plants may be grown in most countries, so that if the harvest in one country fail, grain may be obtained in another.

Another thing worthy of notice is that corn can be stored up for future use for many years.

Wheat yields more flour than any other grain, and is a very important article of food in this country. More wheat is grown in England in proportion to its size than in any other part of the world, and a great deal is brought into it from abroad. The best kind of bread is made from the flour of wheat, but in some places it is made of barley, oats, or rye.

Barley is next in value to wheat, and is much used in England for the purpose of turning it into malt for brewing.

Oats.—This grain is the hardiest of all the corn plants, and flourishes best in cold climates, where neither wheat nor barley can be raised with profit. In Scotland it forms the chief food of the people, and oatmeal is well known in many countries.

Rye is easily grown, but the bread made from it is much coarser than that made of wheat flour, and the straw is of nearly equal value with the grain.

Buckwheat, when green, is used as food for cattle, and poultry are fed with the ripened seeds.

Millet is sometimes used as a substitute for rice, and sometimes as food for poultry. The Indian millet grows to a large size.

Maize, or *Indian Corn*, is much larger than the corn of our country, and in some of the ears there are as many as 800 grains, thickly set, and resembling flattened peas. It is used s food by an immense number of people in hot climates. The unripe ears are used as a green vegetable, but when ripe they are either used for grinding into flour or boiled into a sort of soup.

Rice forms a large part of the food of the people in warm climates. It feeds millions of people in China, while in India immense numbers get scarcely anything else to eat.

Sc.

BUTTERCUPS AND DAISIES.

dais-y
dais-ies
sturd-y
weath-er
show-ers
hard-ship
strength
course
coarse

Buttercups and daisies,
Oh, the pretty flowers!
Coming ere the spring-time
To tell of sunny hours.
While the trees are leafless,
While the fields are bare,
Buttercups and daisies
Spring up here and there.

Little hardy flowers,
Like to children poor,
Playing in their sturdy health
By their mother's door;
Purple with the north wind,
Yet alert and bold;
Fearing not and caring not,
Though they be a-cold!

What to them is weather?
What are stormy show'rs?
Buttercups and daisies
Are these human flowers!
He who gave them hardship,
And a life of care,
Gave them likewise hardy strength,
And patient hearts to bear.

Mary Howitt.

CHANGE OF SEASONS.

When the tuneful birds are singing,
Joyous notes around are ringing,
And the summer's sun is bringing
Hours of joy and mirth;

When the wintry winds are roaring,
With the rain in torrents pouring,
These are in their course restoring
Beauty to the earth.

Rev. J. Sugden.

SHIPS.—LESSON I.

buoy-ant
gal-ley
vi-o-lence
tri-remes
hard-i-hood
gen-er-al-ly
con-fi-dence
o-ver-whelm
dur-a-ble
en-dur-ance
heav-i-est
Aus-tra-li-a
voy-ag-ing
em-phat-ic
pro-tec-tion

The mention of the word ships carries our thoughts away at once to the sea, and to the hardy sailors who spend their lives in voyaging from one country to another. To many who have never been on it, but who have read and heard with dread of storms and shipwrecks, the sea is full of terrors. It is not so to a sailor. His life is full of hardships and dangers, but he has been used to them from his youth, and he hopes God will preserve him through them all. In a good ship, and with plenty of sea-room, he is seldom afraid. A well-built ship can generally brave the heaviest gale, and the knowledge of this should give confidence to those who are called upon, as many people are in these days, to cross the ocean to America, India, Australia, and other distant parts of the world. It is in bad weather, when ships are near the land, that there is the most danger, for then they are often driven by the violence of the wind on to the rocks, and are broken to pieces—and then, God help the poor sailors!

Ships are built much larger and stronger than boats, to enable them to resist the violence of the waves, which in stormy weather would otherwise dash them to pieces or quite overwhelm them. Another great difference between a ship and a boat is that the former is covered or decked over at the top, so that if the water rises over the sides, as it often does at sea, instead of filling, and so sinking the ship, it flows off the deck again, and leaves the ship buoyant and safe to continue her voyage. Then, too, a boat is propelled by means of oars, assisted sometimes by sails, but a ship depends entirely on her sailing powers, unless she is fitted as a steamer. A ship is too heavy to be moved by oars, and though the war-ships, called triremes, of the Greeks and Romans, and the galleys of modern nations, were rowed sometimes by as many as 200 or 300 men, they were far more like boats than ships of the present day.

Oak is the timber chiefly employed in shipbuilding, because it is very strong and durable, but it is only the hardest and best part of it, the heart, as it is called, which is used. There are many kinds of oaks, but that which grows in England is the best for this purpose. It is on account of their strength, hardihood, and great powers of endurance that English sailors are sometimes called 'hearts of oak.' Teak also is much used in shipbuilding.

During the last forty or fifty years, however, ships made almost entirely of iron have by degrees come more and more into use, until in these days almost every steamer is built of iron. But how can an iron ship be made to swim? it may be asked. Easily enough. Iron ships do swim, and are as buoyant and safe as wooden ones; and if boys would like to find out how that can be, let them first discover why a glass bottle, if tightly corked, and thrown into the water, will not only swim, but cannot possibly, while it remains whole, be made to sink. And yet, when it is broken, the pieces of glass will sink almost as quickly as though they were iron. When they have found out the reason of this, they will know why iron ships float as well as wooden ones.

Ships of war are now built which have their sides covered with armour consisting of plates of iron sometimes a foot thick. They are called iron-clads, and may remind us of the knights of old who used to put on armour when going to fight; and, as in former days men who had not this protection had but little chance of success against those who wore armour, so now wooden ships are quite unable to cope with iron-clads, and hence all ships of war are coated with iron.

S. G.

SHIPS.—LESSON II.

em-ploy-ment	con-struc-tion	con-ceiv-ed
sug-gest-ed	re-quir-ed	fa-vour-a-ble
top-gal-lant	at-tach-ed	dif-fer-ent
ac-cord-ing-ly	in-tend-ed	vis-i-ble

A MUCH more important change in the history of ships than that of iron taking the place of wood in their construction, was the employment of steam to force them along.

In the year 1789 a boat was launched on the river Clyde, having wheels, or paddles, which were turned by means of a steam-engine fixed on board; and it was thus driven through the water at the rate of seven miles an hour. There is an old saying that 'Two heads are better than one,' and in this case three heads were better than two, for it took, as you will see, three men to make the plans for this, the first steamboat.

A gentleman named Millar, a Scotchman, conceived the idea of forcing a boat along by means of paddlewheels, which were not to be turned in the usual manner, but by capstans or other wheels fixed on board. It took the strength of several men to turn these capstans, and this difficulty suggested to a Mr. Taylor, a tutor in Mr. Millar's family, that a steam-engine might be placed on board, which, without setting fire to the boat, could be made to turn the capstans and the paddles more easily and quickly than the men did. An engineer named Symington was clever enough to make and fix such an engine, and the result was the first steamboat.

In 1807, an American named Fulton launched a second steamboat, which answered well, and in 1812 a Mr. Bell built on the Clyde the first steamboat used for trading purposes, and soon after that they came into general use. In 1819 a little steamer came all across the Atlantic Ocean from America to Liverpool, and in 1825 an English captain named Johnson received a reward of ten thousand pounds for making the first steam voyage to India. Steamships soon came to be employed on all short routes where great speed was required. And no wonder! for while a sailing ship is entirely dependent on the wind, often not being able to move at all for want of it, and again being compelled to remain at anchor because the wind blows in the wrong direction, or being in the open sea and so unable to anchor, she is driven out of her course—a steamer can start at any time, with wind or without, and even right against the wind. Steamships can also get along much faster than sailing vessels. A good steamer often moves at the rate of 15 miles an hour for thousands of miles together, and for short distances can go even faster than that. The mail steamers go from Liverpool to New York in nine days, and some time ago a very fine vessel, called the 'Queen of the Thames,' made the voyage from England to Melbourne in the short space of fifty-one days. A few years ago sailing ships were often three, four, and six months in going the same journey. Steamers also carry sails which are only hoisted when the wind is favourable.

The chief parts of a ship are the hull or body, the masts to support the sails, the sails by means of which the wind forces the ship along, and the rigging—which includes all the ropes and chains, some fixed and some moveable, employed in holding or shifting the sails. The vessel which sailors call a *ship* has three masts. The foremast, the main or middle-mast, and the mizen or after mast, and each of these masts carries square sails A *barque* has three masts, only two of which carry square sails. *Brigs* and *schooners* have only two masts, both of which in the former carry square sails, but in the latter, only the foremast has square sails. There are many other sorts of vessels, such as *cutters*, *sloops*, and *yawls*, which have only one mast. A *yacht* is a decked pleasure-boat, and is sometimes a steamer and sometimes a sailing yacht. Each mast is made up of three parts, called the lower, the top, and the topgallant masts, and the sails which are attached to the different parts are named accordingly. Thus the sail on the second part or top of the foremast is called the foretop sail, and that on the third part or topgallant of the mainmast is called the maintopgallant sail. Sometimes a fourth or fifth part is added, to heighten the masts so that more sails may be carried.

Beneath the top or upper deck, as it is called, there is the main deck, and beneath that the lower deck, and under that again there is sometimes another, so that ships may, like houses, be said to be of two, three, or more storeys. The number of decks a ship has depends on its size and the purpose for which it is intended, whether for war, to carry passengers, or to carry cargo only. Beneath all the decks is the hold, in which the cargo is placed.

A *steamship* is moved either by paddle-wheels, one being on each side of the vessel, and is then called a *paddle-steamer*, or by a screw fixed at the end of the ship beneath the water, and so out of sight—this is called a *screw-steamer*.

The screw is made of metal, and has two, three, or four large fans or blades placed something like the sails of a windmill, only they are very much smaller. It is by the pressure of these blades against the water when the screw revolves that the vessel is forced along. If a steamer has no paddles it is certain to have a screw, and hence any steamer may be pronounced a screw if no paddles are visible.

S. G.

BENJAMIN WEST.

gal-ler-ies
Ind-i-ans
sat-is-fi-ed
for-giv-en
per-sua-ded
A-mer-i-ca
neigh-bour
fa-vour-ite
know-ledge
em-ploy-ed
ob-lig-ed
de-light-ed
read-i-ly
por-traits
Laz-a-rus

THOSE children who have visited the picture-galleries in this country, must have seen pictures painted by this great artist. He was born in America in 1738, but spent the greater part of his life in this country. When only seven years old he was left in charge of an infant sister in her cradle; and he made such a pretty sketch of her in red and black ink, that his mother was delighted. She gave him a kiss for his pains, and he tells us in his after life that that kiss made him an artist.

In the country where he was living there were no painters who could help him, nor pictures that he could copy. Some Indians, however, for whom he had made little pictures of their fruits and flowers, taught him how to mix a few colours. A kind neighbour, too, showed him that the colours must be laid on with a camel's-hair brush.

As no hair of this kind could be obtained in his country, he was obliged to be satisfied with hair taken from the tail of a favourite cat. By-and-bye, however, he was supplied by a cousin with paints, pencils, and prints to copy.

And now he set to work in earnest, and made such copies of two of these prints that he was not ashamed to own them after many years of study. It is said that he was so taken up with his favourite art, that he often forgot to go to school. For this fault, however, he was readily forgiven both by his mother and his schoolmaster.

He now paid a visit to some towns near his home, and keeping his eyes open, he got much knowledge that was useful to him. At the age of fifteen he was well known as a skilful painter, and made a good deal of money by taking portraits. After the death of his mother, whom he loved very dearly, he settled in New York. Here he was noticed by a kind gentleman who sent him to Rome to study the works of what are called the 'Old Masters,' that is the great artists of bygone years. Here he made great progress, and soon afterwards, paying a visit to England, he was persuaded to settle there. He now gave up portrait-painting, and began to paint historical pictures. These were seen by George III., king of this country, who employed West to paint pictures to adorn his palace at Windsor. He became at length the first painter of the day, and, having reached the good old age of eighty-one, died in the midst of his favourite works, leaving behind him an example of what may be accomplished by earnest effort in improving the talents entrusted to us.

T. W.

SALT.

won-der-ed
un-der-stand
im-prov-ed
wa-ter-cress
a-cre
oc-cur-red
ne-ces-si-ty
fi-bre
sweet-en-ed
Wor-ces-ter
con-fu-sion
men-tion-ed
su-pe-ri-or
chem-is-try
im-press

'FATHER,' said George Morris, 'what is that which Joseph is taking off in the cart? I saw him going off with a load about five minutes ago, and yesterday, when I came down the seven-acre field, there he was spreading it all over the ground.' 'I will tell you, my boy, if you can tell me what it was that grew on "Seven-Acre" last year,' replied Mr. Morris. 'Oh, I know,' said George, 'long grass and bushes, and some nut-wood. I went in with Joseph one day bird-nesting, and we found such a lot of nests, and I was so glad Joseph came upon a rabbits' stop, and we got out five young ones that couldn't see. Joseph wanted to kill them, but I begged he wouldn't, and he put them back in the hole, where they looked so warm and nice. Yes, father, I can remember what it was that grew in Seven-Acre Field last year, and I was very sorry indeed when I saw the men grubbing up the bushes and burning the long grass, for I thought that I should find no more birds' nests there, and I wondered what the poor rabbits would do for a home.' 'Well, my boy,' said the father, 'you seem to be very tender towards the rabbits, which do nothing but mischief, and yet glad to take the birds' eggs, not thinking that the birds may feel the loss. The birds are many of them very useful creatures, and I do not know how we should get on without them.' George felt rather puzzled at this, since it had never occurred to him that birds could bewail the loss of their nests. His father saw his confusion, and came to his help by saying, 'I know how it is, my boy. You cannot bear to see life taken because your heart is young and tender, and you do not understand that life, though in another form, is in the egg. To kill a rabbit seems to you cruel, and perhaps wicked, but it is also cruel to disturb a hedge sparrow on her nest and rob her of her eggs. My boy, make up your mind never willingly to do a cruel action; as you get older you will see where cruelty begins and where necessity and duty leave off.

'But here we are at Seven-Acre Field, and yonder is Joseph spreading away at his heaps. You asked me just now to tell you what it was that he had in his cart. If you taste it, you will find that it is *salt.*' 'Salt, father, sowing salt! but Seven-Acre Field won't grow salt, will it, father? Why is Joseph sowing *salt?*' 'No, my lad, Seven-Acre won't grow salt. Joseph is sowing salt to stop other things from growing, not to reap a crop of salt.' 'But, father, will the salt prevent the bushes and nut-wood growing up again?' 'No, my boy, the roots of these bushes were grubbed up, and they will never throw out any more sprouts, but that long grass you mentioned is very hard to get rid of. We have grubbed at it, burnt it, harrowed it out and picked it off, but up it comes again. So I am having the place sown with salt to see if that will not kill it. If it does not, the salt will help forward the corn I am going to plant there, for most sorts of grain are improved by having some salt in the ground when the seed is sown.' 'But, father,' said George, 'that salt which Joseph is spreading yonder is like no other salt that I have ever seen. It is not in the least like that we have in the salt-cellars at home, or that which Mary puts over the bacon after the pig has been killed.' 'Well, my boy, it doesn't look like the same salt, but there is very little real difference between them. The difference in look arises from this, one lot of salt has been refined much more than the other. There is no more difference between the lump which has just fallen from the cart and that you ate with your egg this morning than there is between the brown sugar your mother put into the coffee and that pure white loaf sugar with which she sweetened the tea at breakfast, only the white salt and the white sugar have gone through different processes before being used.' 'Father, do you know where the salt comes from?' 'Yes, my boy. Salt is dug up out of the earth just as coal or iron is dug up; it is also obtained from the salt water which springs up in Worcestershire and other places, as well as from sea-water, by boiling the water away. All the salt in the world, George, was once in the sea, and the big lumps you see Joseph breaking with the spade were dug up out of a pit which was once full of sea-water.' 'But, father, how did the sea get into that pit?' 'You know "The Hollows," down near the white barn, where poor old Peter, the blind pony, wandered down and could scarcely be got up again?' 'Oh, yes, father.' 'At the bottom of the sea there are great hollows, only much deeper than those, some of them a mile or two deep. Now the sea has flowed over the very spot we are standing on at this moment, and if this had been a deep ocean pit perhaps we might have found some salt at the bottom. After a while the sea rolled off from what is now land, and took the position it now has. Then these great hollows were left full of water—salt water. Well, in time the sun and the air dried them up, that is dried up the water just as the sun dried up the duck-pond last summer, and left it nothing but mud. So when the water was dried up it left the salt behind. The present salt mines are the beds of old sea-lakes and quarries.' 'Father, what you say is very wonderful. I never thought that this ground was once covered with the sea.' 'Yes, my boy, and that range of hills which you notice yonder, now green with young turnips, is formed of chalk, which the sea left there; and, more wonderful still, the chalk itself was once alive and moved about from place to place, and ate and drank and made itself a shell, and then died and became chalk, and chalk it remains. Some day, my boy, you shall know more of these things, for the world is full of wonders, and the Great Hand which made everything, or, better, made all things make themselves, has left its mark and impress in earth, and sky, and ocean.' W. P.

LEATHER.

nu-mer-ous
om-ni-bus-es
scat-ter-ed
pro-cess-es
mo-roc-co
ex-ten-sive-ly
ma-te-ri-al
har-ness-ed
pu-tri-fy
pow-der-ed
ap-pear-ance
flex-i-ble
car-ri-a-ges
sup-ply-ing
grad-u-al-ly
im-per-ish-a-ble
man-u-fac-ture

LEATHER! What should we do without this useful substance? Every man, woman, and child in the country has some article about them made from it, and its uses are so numerous that we can scarcely count them. The rider has it for the material of saddle and bridle; the horses of carriages, omnibuses, and carts are harnessed with it; coaches are lined, chairs are covered, and books are bound with it; it is used for hat-linings, gloves, braces, bags, whips, toys, and various other things. Besides all these, we must remember what a large quantity is used in supplying boots and shoes to the thousands who wear them.

Leather is used by people in every part of the world, by the scattered natives of distant countries as well as by dwellers in large cities. We read of the skins of animals being used as clothing from the very earliest times; this was when people were in a very rude state, and the skins when dry would shrink, crack, and become horny, and when wet they would putrify and perish; but before they can be made so useful and durable as we have them, they must be prepared with substances which have the power of changing the skin which decays so soon into very strong and lasting leather. This process is called tanning.

You will understand from what you have read that leather is made from the skins or hides of animals. The hides of horses, oxen, calves, hogs, sheep, lambs, goats, deer, and other animals are all by similar processes converted into leather. When the hides are received moist and soft from the butcher, or salted from foreign countries, they are first scraped to remove any pieces of flesh or fat that may remain on them, and are then soaked in lime and water to loosen the hair, that it may be easily taken off. Sometimes they are hung up in houses filled with smoke for the same purpose. After this they are placed flat in large pits, and a quantity of powdered oak bark put between them. Water is then let in, and there they remain from nine to fifteen months. In some cases they are taken out over and over again, and put into stronger liquid each time. In the oak bark there is a yellow substance called tannin; this sinks into the skin and gradually changes it into leather. The tanning is now complete, and the hides are rinsed with water, hung up in lofts to dry, and after being pressed between heavy rollers to make them firm and smooth, are ready for the market. Sometimes hides are tanned by steam, when it is done much more quickly, but though the leather is cheaper it is not so good and durable. If you have seen leather fresh from the tanner's, you have noticed that it is brown, ragged, and thick. That which is required for the upper parts of boots and shoes and by the coachmaker and harnessmaker is taken in hand by the curriers, who shave it with a knife, reducing it in thickness, and making it softer; they also smear it over with a mixture of oil and tallow, and, last of all, they blacken one side of it. The skins of calves and the thinner skins of cows and horses are used for the upper parts of boots and shoes, the thicker skins being made into soles.

There are many thinner kinds of leather, such as white or dyed kid for gloves, morocco, made chiefly from goat-skins, and used so much in bookbinding; roan, used in making slippers, and chamois, or wash-leather. This last was first made from the skin of a pretty little animal of the goat kind, which spends its time skipping among the mountains. It is now made from sheep and lamb skins by rubbing oil or grease into them after soaking the skins in water; it will bear washing, and hence it is called wash-leather. All the above kinds of what we may call fancy leather are prepared from the thin skins of small animals, and are tanned with different substances and in different ways. Patent leather, which is so bright and glossy in appearance, is prepared in a particular manner. A mixture of several materials is laid on very thin leather, which, when dry, form a hard and brilliant surface. We have thus seen how the hides of animals, by a great deal of labour and skill, can be made into a flexible, waterproof, and almost imperishable leather. It is partly on account of these qualities that it is so valuable for our use. Many thousands of people in England are employed in making it, and the manufacture is next in value to cotton, woollen, and iron. Tanning is carried on very extensively at Bermondsey, in London; and boots and shoes, though made in every town and village, are produced in the largest quantities at Northampton and Stafford. J. W.

WISHES AND REALITIES.

re-al-i-ties	a-zure	o-cean
glit-ter-ing	ev-en-ing	cross-ed
path-less	ten-drils	myr tle
men-tal	pin-i-ons	re-strain

A CHILD'S WISHES.

'I WISH I were a little bird,
To fly so far and high,
And sail along the golden clouds,
And through the azure sky.

I'd be the first to see the sun
  Up from the ocean spring;
And ere it touched the glittering spire,
  His ray should gild my wing.

'Above the hills I'd watch him still,
  Far down the crimson west;
And sing to him my evening song,
  Ere yet I sought my rest.
And many a land I then should see
  As hill and plain I crossed;
Nor fear through all the pathless sky
  That I should e'er be lost.

'I'd fly where, round the olive bough,
  The vine its tendrils weaves;
And shelter from the moonbeams seek
  Among the myrtle leaves.
Now, if I climb our largest hill,
  How little can I see!
Oh! had I but a pair of wings,
  How happy should I be!'

REPLY.

'Wings cannot soar above the sky,
  As thou in thought canst do;
Nor can the veiling clouds confine
  Thy mental eye's keen view.
Not to the sun dost thou chant forth
  Thy simple evening hymn;
Thou praisest Him, before whose smile
  The noon-day sun grows dim.

'But thou mayst learn to trace the sun
  Around the earth and sky,
And see him rising, setting still,
  Where distant oceans lie.
To other lands the bird may guide
  His pinions through the air;
Ere yet he rests his wing thou art,
  In thought, before him there.

'Though strong and free, his wing may droop,
  Or bonds restrain its flight;
Thought none may stay—more fleet its course
  Than swiftest beams of light.
A lovelier clime than birds can find,
  While summers go and come,
Beyond this earth remains for those
  Whom God doth summon home.'

J. E. Carpenter.

SIR HUMPHREY DAVY.

sci-ence
fa-vour-ite
ex-plod-ed
en-gin-eer
dis-cov-er
in-ter-est
en-joy-ed
as-sist-ance
fam-i-ly
Pen-zance
es-pe-cial
con-di-tion
dil-i-gent
gram-mar
ex-cel-lent
in-tro-duce
cir-cum-stance
in-dus-try.

About a hundred years ago there was born in a remote part of Cornwall a boy named Davy, who became one of the greatest men of science that this country has ever seen. His father was a wood-carver in the village of Penzance, and he sent his son to the grammar school of that town, where he seems to have been treated rather harshly and to have learnt very little. This, however, did not grieve him very much, for in after life, in a letter to his mother, he said, 'I enjoyed very much the idleness in that school.' It would not, however, be wise for all boys to follow Davy's example, for though all may be diligent, yet only a few can become great as he was. Out of school he was a prime favourite, and amused his schoolfellows with tales of ghosts and goblins and such like things, that children love so much to hear. He began his life of science by making, with the assistance of his sister, fireworks, such as squibs and crackers, and he was noted for a new kind of powder which he exploded upon a stone to the great delight of all who saw it.

When sixteen years old he was left, the eldest of five children, to comfort and help his mother, and right well did he perform this great duty.

On the death of his father he cast off his boyish habits and took his place at the head of the family like a true man. He was very fond of his mother, who was a most excellent woman, and his home, though humble, was a very happy one. He was now put apprentice to a druggist, but his master was soon glad to get rid of him, for his mind was not in the mixing of drugs. About this time there came to lodge with his mother a very clever engineer who took great notice of young Davy, and made him known to a good man who became his friend, and placed him where he could follow his favourite studies. He soon grew to be famous and rich by finding out many things that have proved of great use to mankind.

We like to know that he was good as well as clever, and was never ashamed to own that he feared God. Among the many things for which he is noted we may mention a lamp called the 'Safety Lamp,' which could be carried by miners without setting fire to the gas which is found in mines and coal-pits. By the year 1827 he had become one of the first men of his country. It is worth while to notice the love he had for his native hills, which was very strongly shown during a severe illness. It is said that he begged his nurse with tears to obtain for him some apples from a favourite tree that he had planted when a boy. Lastly we may mention a circumstance which must be interesting to boys. He left one hundred pounds, the interest of which was to be paid to the master of his old school, on condition that he gave the boys a holiday every time his birthday came round. His health failing again, he went abroad hoping to recruit it, but he died at Geneva, 1829, at the age of fifty-one. He is one of those, and there are not a few of them, who have by great industry risen from a low station to riches and honour.

T. W.

THE NATIONAL ANTHEM.

gra-cious
con-found
knav-ish
choic-est
glo-ri-ous
en-e-my
en-e-mies
pol-it-ics
na-tion-al
scat-ter
vic-to-ry
vic-to-ri-ous

God save our gracious Queen,
Long live our noble Queen,
God save the Queen!
Send her victorious,
Happy and glorious,
Long to reign over us,
God save the Queen!

O Lord! our God arise,
Scatter her enemies,
And make them fall!
Confound their politics,
Frustrate their knavish tricks,
On Thee our hopes we fix,
God save us all!

Thy choicest gifts in store
On her be pleased to pour,
Long may she reign!
May she defend our laws,
And ever give us cause
To sing with heart and voice,
God save the Queen!

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